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ADEQUACY OF SERVICES REPORT

FOR

BARRHAVEN CONSERVANCY DEVELOPMENT CORPORATION

BARRHAVEN CONSERVANCY WEST

CITY OF OTTAWA

PROJECT NO.: 21-1226

JANUARY 2023
2ND SUBMISSION

ADEQUACY OF SERVICES REPORT
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**CITY OF OTTAWA
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1.0 INTRODUCTION

David Schaeffer Engineering Limited (DSEL) has been retained to prepare an Adequacy of Services Report (AES) in support of the Barrhaven ***Conservancy West*** development area on behalf of Barrhaven Conservancy Development Corporation (BCDC).

The overall Conservancy land area is approximately 139.7 ha (all land use components) and is located within the City of Ottawa urban boundary in the Barrhaven ward. As illustrated in ***Figure 1***, the subject site is located north of the Jock River, east of Highway 416, west of Borrisokane Road and south of McKenna Casey Drive.

The focus of this report is for the ***Conservancy West*** land area that is located west of the existing Foster Ditch which bisects the overall BCDC landholdings and consists of vacant land. The subject lands are approximately 34.15ha in area (including all right-of-ways, residential area and park areas) and the proposed development draft plan ***Figure 2*** is provided for reference. The development area is currently zoned Development Reserve (DR) and is planned to be developed with a mix of detached single homes, townhomes, park blocks, open spaces and a road network.

A previous draft plan application has been submitted for the BCDC landholdings to the east of this development area.

The Conservancy West development area is outside of the Jock River 100-year limit as confirmed by the Rideau Valley Conservation Authority (RVCA). Refer to the RVCA confirmation letter in ***Appendix D***. The 100-year regulatory flood line is demonstrated in Drawing 1 (Grading) and Drawing 3 (Stormwater) in the ***Appendix***.

The objective of this report is to provide sufficient detail to demonstrate that the proposed development area can be supported by municipal services.

1.1 Existing Conditions

The initial ***Conservancy West*** property topography is relatively flat with the existing ground elevations varying between 91 m and 92 m. All existing flows are either overland to the Jock River or conveyed to the Jock River by way of the O'Keefe Municipal Drain or the Foster Ditch (and their tributaries) which run north to south through the subject property. The property is within the Jock River watershed and is under the jurisdiction of the RVCA.

1.2 Summary of Pre-Consultation

The following provides a summary of the pre-consultation:

Ministry of the Environment, Conservation and Parks (MECP)

Prior consultations associated with the Conservancy Phase 1 development were previously undertaken for the approval of that phase of the development area.

A pre-consultation with the local MECP office has not yet been completed for the Conservancy West development area until the functional design details and requirements have been established with the City of Ottawa.

Rideau Valley Conservation Authority (RVCA)

Multiple consultations, analysis and submissions were coordinated with the RVCA to establish that the development area is outside of the Jock River 100-year limit. See the RVCA documentation in ***Appendix D*** for reference.

1.3 Existing Permits / Approvals

Key approvals associated with the advancement of development of the Barrhaven Conservancy area, are presented in the following table. The most relevant approval is the Environmental Compliance Approval (ECA) for the South Nepean Collector sanitary trunk sewer that future phases will be connecting to. The document is provided in ***Appendix A*** for reference.

Table 1A: Existing Permits / Approvals

Agency	Approval Type	Approval Number	Remarks
Ministry of the Environment, Conservation and Parks (MECP)	Environmental Compliance Approval	# 8129-AB7LDF (June 23, 2016)	South Nepean Collector existing approval (sanitary outlet for development area)
MECP	Environmental Compliance Approval	# 4357-CHMQEM (Sept. 1, 2022)	Sanitary and storm sewer approvals for Conservancy lands east of Borrisokane Road
MECP	Permit to take Water	#5633-C2RQPL (May 26, 2021)	Water taking from Building Excavation, Site Servicing, SWMW, In-Water Works, Ponded Surface Water
Rideau Valley Conservation Authority (RVCA)	RVCA Letter of Permission under O.Reg. 174/06	RV5-4419	Letter of permission related to placement of fill within a regulated area.

1.4 Required Permits / Approvals

The City of Ottawa must approve detailed engineering design drawings and reports prior to future construction of the municipal infrastructure identified in this report. This will occur as part of the Plan of Subdivision application process and detailed design.

Based on pre-consultation with City staff, the additional approvals and permits listed in the following table are expected to be required prior to construction of the municipal infrastructure detailed herein. Please note that other permits and approvals may be required, as detailed in the other studies to be submitted as part of the Plan of Subdivision application (e.g. *Tree Conservation Report, Environmental Impact Statement, Phase 1 Environmental Site Assessment, Headwater Drainage Feature Assessment, etc.)*

Table 1B: Required Permits/Approvals

Agency	Permit/Approval Required	Trigger	Remarks
MECP	Environmental Compliance Approval	Construction of new sanitary and storm sewers throughout the subdivision.	The MECP will review the sanitary and storm sewer design through the City of Ottawa transfer of review process.
MECP	Environmental Compliance Approval	Implementation of oil-grit separator units for quality control.	The MECP will review the stormwater management appurtenance design through the City of Ottawa transfer of review process.
MECP	Permit to Take Water	Construction of proposed land uses (e.g. basements for residential homes) and services.	Pumping of groundwater may be required during construction, given groundwater conditions and proposed land uses and on-site/off-site municipal infrastructure.
City of Ottawa	MECP Form 1 – Record of Watermains Authorized as a Future Alteration.	Construction of watermains throughout the subdivision	The City of Ottawa will review the watermains on behalf of the MECP through the Form 1 – Record of Watermains Authorized as a Future Alteration.
RVCA	Permit under Ontario Regulation 174/06, RVCA’s Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation	Grading (proposed development & potential temporary access roads) within the subject lands (i.e. crossing of Foster Ditch)	Supporting applications and documentation as required through consultation with the RVCA.
RVCA	Outlets to Jock River	In conjunction with issuance of MECP applications	Supporting applications and documentation as required through consultation with the RVCA.
RVCA	Alteration to Watercourses (O’Keefe Drain)	As necessary through consultation with the RVCA	Supporting applications and documentation as required through consultation with the RVCA.
City of Ottawa	Commence Work Notification (CWN)	Construction of new sanitary and storm sewers throughout the subdivision	The City of Ottawa will issue a commence work notification for construction of the sanitary and storm sewers once an approval is issued by the MECP.

2.0 GUIDELINES, PREVIOUS STUDIES, AND REPORTS

2.1 Existing Studies, Guidelines, and Reports

The following studies were utilized in the preparation of this report.

- Ottawa Sewer Design Guidelines,
  City of Ottawa, *SDG002,* October 2012
  (City Standards)
  - Technical Bulletin ISDTB-2014-01
    City of Ottawa, February 5, 2014
    (ITSB-2014-01)
  - Technical Bulletin PIEDTB-2016-01
    City of Ottawa, September 6, 2016
    (PIEDTB-2016-01)
  - Technical Bulletin ISTB-2018-01
    City of Ottawa, March 21, 2018
    (ISTB-2018-01)
  - Technical Bulletin ISTB-2018-04
    City of Ottawa, June 27, 2018
    (ISTB-2018-04)
- Ottawa Design Guidelines – Water Distribution
  City of Ottawa, July 2010.
  (Water Supply Guidelines)
  - Technical Bulletin ISD-2010-2
    City of Ottawa, December 15, 2010.
    (ISD-2010-2)
  - Technical Bulletin ISDTB-2014-2
    City of Ottawa, May 27, 2014.
    (ISDTB-2014-2)
  - Technical Bulletin ISTB-2018-02 / ISTB-2019-02
    City of Ottawa, March 21, 2018 / July 08, 2019
    (ISTB-2018-02 / ISTB-2019-02)
  - Technical Bulletin ISDTB-2021-03
    City of Ottawa, August 18, 2021
    (ISTB-2021-03)
- Design Guidelines for Sewage Works,
  Ministry of the Environment, Conservation and Parks, 2008. (formerly MOECC)
  (MECP Design Guidelines)

- Stormwater Planning and Design Manual,
  Ministry of the Environment, March 2003.
  (SWMP Design Manual)

- City of Ottawa Official Plan,
  adopted by Council 2003.
  (Official Plan)

- City of Ottawa Secondary Plan – Former Nepean – South Nepean Urban Area – Areas 9 and 10,
  Adopted by Council 2003.
  (Secondary Plan)

- South Nepean Collector: Phase 2 Hydraulics Review / Assessment Technical Memorandum
  Novatech, August 2015
  (Novatech SNC Memo)

  - South Nepean Collector: Phase 2 Preliminary Design Report,
    Novatech, March 2016
    (Novatech SNC Design Report)

- Strandherd Drive Widening Project, South Nepean Collector: Phase 3 Sanitary Flow Calculations
  Novatech, May 2019
  (2019 Novatech SNC Design Report)

- Hydraulic Potable Water Assessment for Barrhaven Conservancy Development Corporation, March 2021
  (Stantec Hydraulic Analysis)

- Jock River Reach One Subwatershed Study
  Stantec, 2007
  (Jock River SWS)

- Geotechnical Investigation, Proposed Residential Development, Conservancy Lands West, Ottawa, Ontario
  Paterson Group, September 27, 2019 (Project No. PG5036-1)
  (Geotechnical Report)

- Environmental Impact Statement for Barrhaven Conservancy East
  Kilgour & Associates Ltd., July 29, 2020
  (Kilgour EIS)

- Master Infrastructure Review – Barrhaven Conservancy
  David Schaeffer Engineering Ltd., July 2021
  (Conservancy MIR)

- Design Brief for Barrhaven Conservancy East – Phase 2, 3, & Jock River
  David Schaeffer Engineering Ltd., June 2022
  (DSEL East Design Brief)

- Adequacy of Services Report - Barrhaven Conservancy East – Phase 5
  David Schaeffer Engineering Ltd., December 2022
  (DSEL East Ph5 Report)

- Barrhaven Conservancy East (Phases 2, 3, 4 & Jock River): Water Distribution System Analysis, Stantec, June 2, 2022
  (Stantec Hydraulic Analysis - East)

3.0 WATER SUPPLY SERVICING

3.1 Existing Water Supply Services

The subject property is located adjacent to the City of Ottawa's Pressure Zone (PZ) 3SW (previously known as PZ BARR). PZ SUC services the lands that are east of the subject property, as well as south of the Jock River.

The City of Ottawa has recently reconfigured the pressure zones servicing Barrhaven and the South Urban Community (SUC) in order to improve reliability and efficiency and to increase pumping capacity to accommodate for future growth in the area. There are three pumping stations servicing Zone 3SW and Zone SUC as follows: the Fallowfield Road Pumping Station (FRPS), the Barrhaven Pumping Station (BPS) and the Ottawa South Pumping Station (OSPS).

The future watermains to be implemented through the detailed design process for the adjacent Conservancy East lands will facilitate water service to the West area. These services will be further extended to provide the requisite water supply to this development area.

3.2 Water Supply Servicing Design

Stantec Consulting Limited was retained to perform a hydraulic assessment for the Conservancy East Lands. The ***Hydraulic Potable Water Assessment for Barrhaven Conservancy Development Corporation (Stantec Hydraulic Analysis)*** prepared by Stantec (March 2021) previously supported the advancement of the Conservancy East lands east of Borrisokane road. Subsequently, as part of the detailed design for the approved phases east of Borrisokane Road, Stantec prepared an updated study "***Barrhaven Conservancy East (Phases 2, 3, 4 & Jock River): Water Distribution System Analysis (June 2022 – Stantec Hydraulic Analysis - East***). The analysis reviewed the system requirements of the development area on the west and east sides of Borrisokane Road but only the detailed design of the areas east of Borrisokane Road were advanced to detailed design.

Stantec has prepared an updated analysis to evaluate the distribution system with the three watermain feeds to the overall development area that were assessed in the Conservancy East design. Their "***Barrhaven Conservancy West: Water Distribution System Analysis (January 2023)*** is provided in ***Appendix B***.

The proposed water servicing layout is presented in ***Figure 3***.

The following table summarizes the relevant Water Supply Design Criteria which will be employed in the design of the subject property.

Table 2A: Water Supply Design Criteria

Design Parameter	Value
Extracted from Section 4: Ottawa Design Guidelines, Water Distribution (July 2010)	
Residential – Detached Single	3.4 p/unit
Residential – Townhome/ Semi	2.7 p/unit
Residential – Apartment	1.8 p/unit
Minimum Watermain Size	150 mm diameter
Minimum Depth of Cover	2.4 m from top of watermain to finished grade
During normal operating conditions desired operating pressure is within	350 kPa and 480kPa
During fire flow operating pressure must not drop below	140 kPa
Residential – Detached Single	280 L/cap/day
Residential – Rear Lane Town & Back-to-Back	2880 L/cap/day
Average Day (AVDY)	Population x Demand
Max Day (MXDY)	AVDY x 2.5
Peak Hour(PKHR)	MXDY x 2.2

Fire Flow Demand

Fire Flow requirements are established in the boundary condition request found in ***Appendix B*** as prepared by Stantec. Based on anticipated unit configurations and separations the City's fire flow cap of 13,000 L/min for single dwellings and traditional townhomes as outlined in *ISDTB-2014-02* does not apply and separation of fire areas with units of ordinary construction, as well as architectural elements, will be incorporated to meet target fire flows. The fire flows will be calculated in accordance with the Fire Underwriters Survey's Water Supply for Public Fire Protection Guideline (2020).

Boundary Conditions

To support the preparation of a hydraulic analysis for the subdivision, boundary conditions were provided by the City of Ottawa for the anticipated water demands and are summarized in the following table. See ***Appendix B*** for full details of the boundary condition request submitted.

Table 2B: Boundary Conditions (from *Stantec Hydraulic Analysis – West* report)

HGL (m) - Zone SUC Servicing Conditions			
Demand Scenario	Three Connections		
	Connection 1 (1)	Connection 2 (2)	Connection 3 (3)
AVDY	146.7	146.7	146.6
PKHR	141.4	141.3	141.0
AVDY +FF	139.7	138.1	139.8
MXDY +FF	137.9	136.2	137.9

(1) Ground elevation at Connection 1 (Chapman Mills Drive) = 93.10 m
(2) Ground elevation at Connection 2 (Danson Gardens Grv / Darjeeling Ave) 91.80 m
(3) Ground elevation at Connection 3 (Flagstaff Dr) 92.30 m
As provided by the City of Ottawa via email on December 6, 2022 (J.Bougadis)

Water Demand Calculations

A summary of water demands for the subject site is presented in the following table as derived from the criteria above and the ***Stantec Hydraulic Analysis*** found in ***Appendix B***.

Table 2C: Water Demand Estimate

		Unit Count	Pop (1)		AVDY(2) (L/s)	MXDY(3) (L/s)	PKHR(4) (L/s)
East	Single Family	782	2,659		-	-	-
	Townhouse	606	1,636		-	-	-
	Subtotal	***1,388***	***4,295***		***13.92***	***34.80***	***76.55***
West	Single Family	462	1,571		-	-	-
	Townhouse	499	1,347		-	-	-
	Subtotal	***961***	***2,918***		***9.46***	***23.64***	***52.01***
	Totals	***2,349***	***7,213***		***23.38***	***58.44***	***128.57***

(1) Population per unit is 3.4 for Single Family and 2.7 for Townhomes
(2) AVDY = Average Day
(3) MXDY = Maximum Day
(4) PKHR = Peak Hour
(5) See Stantec Hydraulic Analysis in ***Appendix B*** for details.

3.3 Summary of Hydraulic Modeling Analysis

A watermain analysis has been prepared to confirm that the network is sized adequately, which is the greater of maximum day plus fire and maximum hour. City review comments on the prior ***Stantec Hydraulic Analysis - East*** noted that the preferred system configuration for the entirety of the Conservancy development area is for three connections to the existing network and those results are presented below.

System Pressures

The modeling indicates that the development can be adequately serviced by the proposed watermain network. Modeled service pressures for the development are summarized the following table. The detailed pipe and junction tables are contained in the ***Stantec Hydraulic Analysis***, enclosed in ***Appendix B.***

Table 2D: Summary of Available System Pressures

	AVDY Maximum Pressure		**Peak Hour Demand Minimum Pressure**	
	kPA	psi	kPA	psi
Conservancy West	546	79.23 (J239)	436	63.22 (J297)
*Note: See model results in the Appendix C of the **Stantec Hydraulic Analysis** memo.*				

The generally accepted best practice is to design new water distribution systems to operate between 350 kPa (50 psi) and 480 kPa (70 psi) as outlined in the City of Ottawa Design Guidelines. Where pressures exceed 80psi pressure reducing valves (PRV) shall be implemented as per the Ontario Building Code.

Available Fire Flows

The minimum allowable pressure under fire flow conditions is 140 kPa (20 psi) at the location of the fire. A summary of the available fire flows is presented in the following table. The detailed fire flow reports are found in the ***Stantec Hydraulic Analysis - East*** enclosed in ***Appendix B***.

Table 2E: Summary of Available Fire Flows

	Required Fire Flow (L/s)	**Minimum Available Flow (L/s)**	**Junction ID**
Conservancy West	217	183.84 177.61 197.95	J363 J365 J369
*Note: See model results in the Appendix C of the **Stantec Hydraulic Analysis**.* *It is anticipated that the above minor flow node can be managed by procedures noted in ISDTB-2018-02 (See Section 3.2 of Stantec report)*			

As shown in the above table, the model predicts the majority of the network will be able to provide the required 13,000 L/min (217 L/s) fire flows. The junctions noted are marginally below this threshold but it is anticipated that at detailed design fire control measures such as ordinary construction units, firewalls and/or using the alternativ4e hydrant spacing procedure outline in ISDTB-2018-2 can mitigate these areas (if fire flow results remain the same at detailed design). Detailed results are included in the ***Stantec Hydraulic Analysis***, enclosed in ***Appendix B***.

System Reliability

Various major watermain failure scenarios were reviewed by Stantec. Some scenarios resulted in fire flows that are within the 10,000 L/min range that can be reviewed in more thoroughly at detailed design. See discussion in Section 3.3 of the ***Stantec Hydraulic Analysis*** in ***Appendix B.***

3.4 Water Supply Conclusion

The subject lands are have been reviewed by Stantec to confirm the proposed distribution system will meet the required demands and redundancy requirements.

The network is proposed to consist of 152 mm, 203 mm, 254 mm and 305 mm watermains.

Under AVDY demand conditions the model results indicate that maximum pressures are below the allowable maximum pressure of 80 psi as per the City of Ottawa Design Guidelines. Under PKHR demand conditions the minimum pressures are within the City's system pressure requirements.

Under MXDY+FF demand conditions the assumed required fire flow of 13,000 L/min can be achieved for the majority of the proposed distribution network at full build out conditions. There are several isolated locations where the FF may be slightly less than the 13,000 L/min threshold (i.e. worst case scenario of 10,657 L/min at Junction 365) but it is assumed that these isolated locations can be managed with fire control measure as required at the detailed design stage.

Reliability assessments indicate that for AVDY+FF conditions there are some locations where system flows are slightly below the fire flow of 13,000 L/min (i.e. in the 10,000 to 11,000 L/min range). At detailed design these areas will be assessed with fire flow measures proposed to mitigate potential shortfalls.

Watermain crossings (300mm diameter) of the O'Keefe Drain and Foster Ditch will be accomplished via the implementation of a 610mm diameter steel casing (gauge 12.7mm – Grade 3) which will have 1m clearance below the culverts and extend up to 5m beyond the edge of the culverts. Pressure grout of 1:5 cement/sand ratio will surround the pipe. Details to be established at future detailed design.

Future modelling at the detailed design stage will confirm phasing of the extensions of trunk watermains and sizing of the local watermain network. The proposed water supply design will conform to all relevant City and MECP Guidelines and Policies.

4.0 WASTEWATER SERVICING

4.1 Existing Wastewater Services

Per the ***South Nepean Collector (SNC) Wastewater Servicing Study and Functional Design Report*** by Dillon in October 2003 ***(Dillon SNC Report)***, the subject property is tributary to the South Nepean Collector (SNC) sewer as urban development land.

The SNC (previously called the Jock River Collector) sewer operates north of the subject property within Strandherd Drive prior to travelling south down a Chapman Mills Drive (CMD) and then turns eastward within the future CMD right-of-way (ROW).

The ***South Nepean Collector Phase 2: Hydraulics Review / Assessment*** memo was prepared by Novatech Engineering Consultants on August 20, 2015 ***(Novatech SNC Memo)*** to provide an update to the sanitary design flows for Phase 2 of the South Nepean Collector, as previously documented in the ***South Nepean Collector (SNC) – Functional Design Report and Update*** by Dillon in 2012 ***(Dillon SNC Report and Update)***. In addition, Novatech is also currently the engineer of record for the design and implementation of the Phase 3 extension of the SNC.

4.2 South Nepean Collector Phase 3 – Preliminary Design

The 2015 ***Novatech SNC Memo*** contemplated that the Conservancy Phase 1 development area (north of the Fraser-Clarke Watercourse) would be serviced by the 900 mm diameter SNC sewer running adjacent to the property within the future extension of CMD. This is represented by area "A6-E" within the "*Sanitary Drainage Areas and Land Use – Fig.1"* plan within the 2015 Novatech memo (note that the actual tributary area and population varied slightly).

For the Phase 3 extension of the SNC, Novatech has prepared another review of sanitary flows within their technical memorandum titled "***Strandherd Drive Widening Project***, ***South Nepean Collector Phase 3: Sanitary Flow Calculations***" May 30, 2019 ***(2019 Novatech SNC Memo).*** The memorandum, along with the design sheet calculations from the Novatech memo, are provided in ***Appendix C*** for reference along with DSEL annotations on key items in the figure and design sheets. The updated "*Sanitary Drainage Areas and Land Use – Fig.1" (May 2019)* plan is essentially reflective of the same tributary information that was provided in the 2015 study (the plan has been marked up to reflect the Conservancy areas as a frame of reference). The associated design sheet also reflects updated City wastewater design criteria that was not accounted for in the 2015 study and is discussed further in the following section.

Report excerpts are provided in ***Appendix C*** for the SNC Phase 2 analysis as well as draft information associated with the Phase 3 extension. The location of the SNC sewer is shown in ***Figure 4***.

4.3 Wastewater Design

The subject property is planned to be serviced by an internal gravity sanitary sewer system that is to generally follow the local road network with select servicing easements as required to achieve efficiencies in servicing and grading designs. The wastewater servicing plan can be seen in ***Drawing 4***.

Similar to the proposed Conservancy East development, this report proposes that the drainage area of the SNC sanitary sewer be expanded to include the entirety of the Conservancy property. The sewer network will connect to the off-site SNC sanitary sewer within the future CMD at existing manhole 'SANMH8' as identified in the Novatech SNC Phase 2 design Drawing No. 20 provided in ***Appendix C*** for reference (City contract number ISD14-2033). As noted in the prior section, the 2015 ***Novatech SNC Memo*** was derived flows based on the City guideline parameters of the time (namely 350 L/capita/day, infiltration allowance of 0.28 L/s/ha and commercial properties at 50,000 L/ha/d). The following table summarizes the new City design guidelines and criteria to be applied to the ***Conservancy East*** sewer design as well for the determination of the projected flows to be tributary to the SNC along the frontage of the Conservancy Phase 1 development area.

Table 3: Wastewater Design Criteria

Design Parameter	Value
Current Design Guidelines	
Residential - Single Family	3.4 p/unit
Residential – Townhome/ Semi	2.7 p/unit
Residential – Apartment	1.8 p/unit
Average Daily Demand	280 L/d/person
Peaking Factor	Harmon's Peaking Factor. Max 4.0, Min 2.0
Commercial / Institutional Flows	28,000 L/ha/day
Commercial / Institutional Peak Factor	1.5
Infiltration and Inflow Allowance	0.33 L/s/ha
Park Flows	28,000 L/ha/d
Park Peaking Factor	1.0
Sanitary sewers are to be sized employing the Manning's Equation	$Q = \frac{1}{n} A R^{2/3} S^{1/2}$
Minimum Sewer Size	200mm diameter
Minimum Manning's 'n'	0.013
Minimum Depth of Cover	2.5m from crown of sewer to grade
Minimum Full Flowing Velocity	0.6m/s
Maximum Full Flowing Velocity	3.0m/s
Extracted from Sections 4 and 6 of the City of Ottawa Sewer Design Guidelines, October 2012, and associated Technical Bulletins.	

Several design sheets are provided in ***Appendix C*** for reference:

- Sanitary design sheet for the lands east of Borrisokane Road;

- Design sheet and drainage plan for the recently submitted Conservancy Phase 5 development area for adjustments to that previously approved draft plan (bounded by the Foster Ditch to the west and Borrisokane Road to the east);
- Design sheet and drainage plan for Conservancy West (this current application).

Within the Conservancy East design sheet the area and flows from the lands west of Borrisokane Road are highlighted where flows enter the development area at the westward stub from MH10A. That design sheet projected a flow of 77.81 L/s.

Based on the Conservancy East Phase 5 draft plan, and updated concept plans for the Conservancy West development area, the flows shown at the eastern limit of Phase 5 (see Phase 5 design sheet in ***Appendix C***) projected ~68.96 L/s at MH 532A where it outlets to the MH10A noted above. As such, downstream systems are sufficient and no negative impacts given that flows are lower than the previously projected 77.81 L/s.

Updates to the development area for Conservancy West were completed after the Phase 5 submission. The design sheet for the current Conservancy West submission shows a projected flow of 45.84 L/s to Phase 5 whereas the Phase 5 submission had estimated a flow of 56.22 L/s. Flows from Conservancy West are lower therefore no downstream impacts.

4.4 Sanitary Lift Station

As documented within the ***Conservancy MIR*** the design of the gravity sewers for the Conservancy development areas has been kept the sewer inverts as low as possible from its connection point at the South Nepean Collector. Despite this, the invert of the existing Foster Ditch, which is along the easternmost limit of the Conservancy West draft plan area, does impart a constraint for the sanitary sewer crossing. This constraint will necessitate the inclusion of a low lift sanitary pump station, west of the Foster Ditch, in order to provide sanitary service upstream.

Preliminary review of the requirements by Stantec indicates the following pump station characteristics:

The proposed pumping station will be of wet well type, with two submersible sewage pumps (one duty one standby) estimating a required capacity of 60 L/s +/-. The main components will be:

- Precast concrete or fiberglass wet well, 2.4 m in diameter;
- Two submersible sewage pumps with the duty point of 60 L/s at 14.8 m total dynamic head (initial estimate to be finalized at detailed design);
- Approximately 90 m long forcemain (twin), 150 mm dia., PVC SDR 26 or equal;
- Bypass chamber for pumping the sewage during wet well inspections/repairs or emergency situations;

- Precast control building with electrical and SCADA equipment;
- Permanent power supply (transformer);
- Standby Power: Generator (diesel or natural gas);
- SCADA communication tower;
- Approximately 620m^2 block of land for the facility based on past experience on a facility of this nature (Note: final block size may vary slightly based on the detailed design/layout of the facility);
- The proposed facility is adjacent to the Foster Ditch and future residential development. The nearest residential units would be ~35m north, ~30m west, ~12m south or ~75m to the east. Separation distances will ultimately depend on the siting of the station;
- Typical carbon filters would be added to venting to mitigate potential odor issues.

The development area and pumps station location are in close proximity to the Jock River with limited opportunity for discharge to a watercourse or storm sewer. The incoming sanitary sewer invert to the station is ~86.41m. The Foster Ditch immediately adjacent to the facility (to the east) has an invert of 90.20. The 25-year water elevation of the Jock River in this vicinity is ~91.57m and the 100-year water elevation is ~91.89m. An overflow siphon to the sanitary outlet manhole is feasible due to the relatively minor elevation difference between the inlet at the lift station versus the gravity outlet to the east of the Foster Ditch (~ +2.0 to 2.5m).
As an extra level of protection during an overflow situation, along with the gravity outlet option noted above, the sewage would have to be pumped by pumper trucks (or temporary pumps) from the wet well to the adjacent sewers or to the Foster Ditch (depending on the type of emergency). The response time for the Operators would need to be calculated based on the available storage in the wet well and within the incoming sanitary sewer. Wet well and/or sanitary sewers could be oversized to increase the available storage to accommodate the response time so that it would be within acceptable limits based on City experience. This will be discussed and addressed in detail during the preliminary station design.

4.5 Wastewater Servicing Conclusion

The subject property will be serviced by local sanitary sewers, an on-site trunk sanitary sewer, and the off-site SNC sanitary sewer per previous reports. There is residual capacity in the downstream SNC providing sufficient capacity for the peak sanitary flows for the subject property, including external commercial and community park flows. Projected flows from Conservancy West are lower than those previously estimated.

The Conservancy West area will require a low lift sanitary pumping station due to a constraint imposed by the existing Foster ditch watercourse that bisects the property which does not allow for gravity drainage all the way to the SNC connection point. Detailed design for the station will be coordinated with the City during the detailed design stage for the development area.

5.0 STORMWATER CONVEYANCE

5.1 Existing Stormwater Drainage

The subject property is within the Jock River watershed. Per the existing topography characterized in available City of Ottawa base mapping, as well as site specific survey, all flows from the subject property are ultimately conveyed to the Jock River by a series of watercourses, sheet flow and minor ditches. The Foster Ditch and the O'Keefe Municipal Drain are the main stormwater conveyances within the Conservancy West property that convey stormwater to the Jock River.

5.2 Proposed Stormwater Management Strategy

Various stormwater strategies were discussed within the Master Infrastructure Review (MIR) prepared previously. Alternatives reviewed were:

Alternative 1 – Oil and Grit Separators & Treatment Train to Naturalized Wetlands*
Alternative 2 – Stormwater Management Wetland Facilities in the Floodplain
Alternative 3 – Stormwater Management Wetland Facilities out of the Floodplain
Alternative 4 – Modified Etobicoke filtration System (MEFS)

For the purposes of this AES update for Conservancy West, Alternative 1 continues to be advanced as per the evaluation provided in the MIR and per discussions with the City of Ottawa on July 20, 2021. This alternative:

- A storm sewer system designed to capture at least the minimum design capture events in accordance with the amendment to the storm sewer and stormwater management elements of the Ottawa Design Guidelines – Sewer (Technical Bulletin PIEDTB-2016-01). The stormwater runoff will be treated before ultimately being released into the natural heritage features and the Jock River as per the ***Jock River Reach One Subwatershed Study*** prepared by Stantec in 2007 ***(Jock River SWS)***.
- All proposed units will be equipped with sump pumps due to local constraints;
- A treatment train approach to attain an Enhanced Level of Protection (80% total suspended solids (TSS) removal) per MECP guidelines consisting of:
  - Deep sump catchbasins;
  - The incorporation of infiltration-type LIDs within the right-of-way extending out from catchbasin locations (see ***Figure 5*** in the ***Figures & Drawings*** section). Future detailed grading will allow for the determination of suitable locations in order to yield optimal benefit from this LID. See Section 5.7 for additional LID discussion.

  - Multiple oil and grit separators (OGS) units to provide TSS treatment with outlets that are above the 2-year event summer water levels on the Jock River;
  - The storm systems will discharge the treated stormwater at multiple outlets located along the southern natural heritage corridor, connecting via channels. Discharge locations are demonstrated in the ***Storm Tributary Area*** plan in the ***Figures & Drawings*** section
- An on-site road network designed to maximize the available storage within right-of-ways for the 100-year design event, where possible; and
- An overland flow route designed to safely convey stormwater runoff flows in excess of the on-site road storage.

The design for the site proposes to have stormwater flows conveyed through the development area of the subject property via an underground sewer network. The stormwater runoff will be treated before ultimately being released into the natural heritage features and the Jock River as per the ***Jock River Reach One Subwatershed Study*** prepared by Stantec in 2007 ***(Jock River SWS)***.

The proposed stormwater design layout is shown on ***Drawing 3*** with the stormwater management design consisting of:

- A storm sewer system designed to capture at least the minimum design capture events in accordance with the amendment to the storm sewer and stormwater management elements of the Ottawa Design Guidelines – Sewer (Technical Bulletin PIEDTB-2016-01);
- Multiple oil and grit separators (OGS) designed to assist with achieving the required Enhanced Level of Protection per MECP guidelines, along with additional treatment train elements, via treatment of the stormwater captured by the storm sewer network;
- The storm systems will discharge the treated stormwater at multiple outlets located along the natural heritage corridor, connecting via naturalized channels outletting to the Jock River. Discharge locations are demonstrated in ***Drawing 3***;
- Inverts of storm outlets are set at the 2-year summer water levels of the Jock River;
- An on-site road network designed to maximize the available storage within right-of-ways for the 100-year design event, where possible, with controlled release of stormwater to the minor storm system; and
- An overland flow route designed to safely convey stormwater runoff flows in excess of the on-site road storage.

Although quantity control has not typically been required for this reach of the Jock River, as per the ***Jock River SWS***, the quantity of stormwater runoff exiting from the subject property will be minimized by optimizing on-site storage in the sags of the proposed road network, which in turn minimizes the size of downstream storm sewer infrastructure. It is noted that the RVCA is currently reviewing the SWM requirements within the Jock River Reach 1 area. In consideration of this, J.F. Sabourin and Associates (JFSA) has undertaken a review of the existing quantity control recommendations and the existing, and proposed, development conditions for this area. The findings are presented in the JFSA memorandum *Review of Quantity Control Requirement for Jock River Reach 1 (March 2021)* provided in ***Appendix D*** which concludes that quantity controls will still not be required for this reach of the Jock River.

Post-Development Stormwater Management Targets

Stormwater management requirements for the proposed alternative Stormwater management scheme have been adopted from the ***Jock River SWS***, ***City Standards***, and the ***MECP SWMP Manual***.

Given the general criteria mentioned above, the following specific standards are anticipated for stormwater management within the subject property:

- Enhanced quality treatment will be provided for stormwater runoff from the subject property, corresponding to a long-term average TSS removal efficiency of 80%, as defined by the MECP prescribed treatment levels;
- Downstream receiving watercourses will be assessed for responses to planned stormwater management outflows, and stabilization mitigation measures will be planned as required;
- Storm sewers on local roads are to be designed to provide at least a 2-year level of service without any ponding per the City's latest Technical Bulletin PIEDTB-2016-01;
- Storm sewers on collector roads are to be designed to provide at least a 5-year level of service without any ponding per the City's latest Technical Bulletin PIEDTB-2016-01;
- For less frequent storms (i.e. larger than 2-year or 5-year), the minor system sewer capture will be restricted with the use of inlet control devices to prevent excessive hydraulic surcharges;
- Under full flow conditions, the allowable velocity in storm sewers is to be no less than 0.80 m/s and no greater than 6.0 m/s;
- For the 100-year storm and for all roads, the maximum depth of water (static and/or dynamic) on streets, rear yards, public space and parking areas shall not exceed 0.35 m at the gutter;

- The major system shall be designed with sufficient capacity to allow the excess runoff of a 100-year storm to be conveyed within the public ROW, or adjacent to the ROW, provided the water level does not touch any part of the building envelope; must remain below all building openings during the stress test event (100-year + 20%); and must maintain 15 cm vertical clearance between spill elevation on the street and the ground elevation at the nearest building envelope;
- Flow across road intersections shall not be permitted for minor storms (generally 5-year or less);
- When catchbasins are installed in rear yards, safe overland flow routes are to be provided to allow the release of excess flows from such areas. A minimum of 30 cm of vertical clearance is required between the rear yard spill elevation and the ground elevation at the adjacent building envelope;
- The product of the maximum flow depths on streets and maximum flow velocity must be less than 0.60 m^2/s on all roads.

Quality Control

Per the ***Jock River SWS,*** Enhanced quality treatment will be provided for stormwater runoff from the subject property, corresponding to a long-term average TSS removal efficiency of 80%, as described by the MECP prescribed treatment levels. See Section 5.3 for quality control approach and discussion.

Quantity Control

As noted in the ***Jock River SWS***, quantity control is not anticipated to be required for outlets to the Jock River, however, some quantity control may be provided by erosion storage, as erosion thresholds for any watercourses/outlets will be respected where required. As noted in Section 5.2, JFSA has reviewed the current/future development conditions contributing to this reach of the Jock River and concludes that quantity control will still not be required. See "*Review of Quantity Control Requirement for Jock River Reach 1 (JFSA March 2021)* provided in ***Appendix D***.

5.3 Stormwater Management Design

Treatment Train Approach

JFSA previously (June 2021 memo) prepared a review of various potential stormwater quality treatment options that were investigated for the development. These included options, and combinations of options, as summarized in the following updated table. Each of the options has an expected total suspended sediment (TSS) removal capability, varying from 5% to 88%. This review assessed how the required Enhanced Level of Protection (80% TSS removal) could be achieved when the options are used in a treatment train approach, consistent with the expected requirements of the upcoming MECP *Consolidated Linear Infrastructure* policy.

Table 1: Quality Control Alternatives – Treatment Train to achieve 80% TSS Removal

Selection and comparison of alternatives

Method	TSS Removal	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Street Sweeping (Monthly)	5%								
Street Sweeping (Weekly)	10%								
Street Sweeping (Weekly with Elgin Eagle)*	88%	x							
Curb Cut with Grass Swales	75%			X					
Curb Cut with Infiltration Trenches	80%								
Catchbasin Inserts (CB Shield)*	27%		X		X	X		X	
Deep Sump Catch Basin	25%				X		X		X
Infiltration/ Filtration Trenches**	80%				X	X	X		
Infiltration at CBs, per MOE Table 3.2 (22.5m³/ha)	70%								X
OGS*	50%			X					X
JellyFish*	85%							X	
SWM Pond (Wet Pond)	80%		X						
		=======	=======	=======	=======	=======	=======	=======	=======
	Overall Performance	88.0%	85.4%	87.5%	89.1%	85.4%	85.0%	89.1%	**88.8%**

Treatment Train Overall Performance = 1 - (1- TSS Removal Rate Method 1) x (1- TSS Removal Rate Method 2) x (1- TSS Removal Rate Method 3 x ...)

*) TSS Removal as documented by ETV Canada

**) includes the use of Etobicoke infiltration or filtration systems or other permutations of the same

The above table provides a summary of the TSS removal for the various methods that were considered. An option of infiltration LID measures located at catchbasin locations has been added as a method, and to Alternative 8 (see further discussion regarding this method below). The options, and combinations of options, have been assessed and shown to meet or exceed the required 80% TSS target.

For the development area, the updated Alternative 8 option demonstrates an estimated TSS removal of 88.8% for that particular treatment train approach which has been discussed with City staff for the approval of prior phases and will be the design being advanced. For the determination of the TSS removal of 70% for the infiltration LID at catchbasins, the *Table 3.2* of the MOECC (now MECP) publication entitled "*Stormwater Management Planning and Design Manual, March 2003*" sets the storage volume requirements for infiltration measures to achieve certain TSS removal rates.

Table 3.2 Water Quality Storage Requirements based on Receiving Waters[1, 2]

Protection Level	SWMP Type	Storage Volume (m^3/ha) for Impervious Level			
		35%	55%	70%	85%
Enhanced 80% long-term S.S. removal	Infiltration	25	30	35	40
	Wetlands	80	105	120	140
	Hybrid Wet Pond/Wetland	110	150	175	195
	Wet Pond	140	190	225	250
Normal 70% long-term S.S. removal	Infiltration	20	20	25	30
	Wetlands	60	70	80	90
	Hybrid Wet Pond/Wetland	75	90	105	120
	Wet Pond	90	110	130	150
Basic 60% long-term S.S. removal	Infiltration	20	20	20	20
	Wetlands	60	60	60	60
	Hybrid Wet Pond/Wetland	60	70	75	80
	Wet Pond	60	75	85	95
	Dry Pond (Continuous Flow)	90	150	200	240

[1]Table 3.2 does not include every available SWMP type. Any SWMP type that can be demonstrated to the approval agencies to meet the required long-term suspended solids removal for the selected protection levels under the conditions of the site is acceptable for water quality objectives. The sizing for these SWMP types is to be determined based on performance results that have been peer-reviewed. The designer and those who review the design should be fully aware of the assumptions and sampling methodologies used in formulating performance predictions and their implications for the design.

[2]Hybrid Wet Pond/Wetland systems have 50-60% of their permanent pool volume in deeper portions of the facility (e.g., forebay, wet pond).

The required storage volume of 24.0 m^3/ha is determined for the development area pro-rated from the above table based on an overall imperviousness of ~68%. Similar to prior phases it is anticipated that the extent of the site area for Conservancy West can be managed with the proposed LID and treatment train system. For prior phases it is noted that approximately 140 lineal meters of LID per hectare of area to be treated was required. The overall land area is ~34.15ha as noted in the introduction of this report. The system design would be such that rear yards are not tributary to the LID. Therefore, if we conservatively assume the full 34.15ha being treated this would equate to 140x34.15= 4,781 m extent of LID required. Conservancy West has approximately 5,700 m of roadway available to incorporate the LID infrastructure therefore more than sufficient roadway length is available for use.

Oil-Grit Separator Units (OGS)

As shown on ***Drawing 3***, there will be multiple OGS units at various locations along the southern boundary of the property, discharging to the Jock River via naturalized channels. By way of an MECP Certificate of Technology Assessment and manufacturer's design report, the OGS units will demonstrate compliance with Enhanced Level of Protection requirements, with specific drainage area parameters for each area.

The manufacturer's reported efficiency of TSS removal of the OGS units is expected to be based on a 'fine distribution' particle size distribution in conformance with the following table, unless otherwise approved by the City of Ottawa, RVCA, and MECP. The particle size distribution is the generic particle size distribution accepted by the City of Toronto per the *Wet Weather Flow Management Guidelines* (City of Toronto, 2006) as a typical average stormwater particle size distribution, and is an excerpt from Table 3.3 of the *Stormwater Management Practices Planning and Design Manual* (MOECC, 1994).

Table 4: Typical Stormwater Particle Size Distribution & Settling Velocities (Source: *Stormwater Management Practices Planning and Design Manual,* MOECC, 1994)

Particle Size (microns) (NURP 1983)	% of Particle Mass	Average Settling Velocities (m/s)
< 20	0 - 20	0.00000254
20 - 40	20 - 30	0.00001300
40 - 60	30 - 40	0.00002540
60 - 130	40 - 60	0.00012700
130 - 400	60 - 80	0.00059267
400 - 4000	80 - 100	0.00550333

To allow for flexibility as detailed design advances, it is proposed that any OGS unit can be selected, given that it:

- Meets the requirements set out in the preceding sections;
- Ensures no significant negative impact on the upstream storm sewer system – to be determined via hydraulic modelling at detailed design; and
- Demonstrates suitability for meeting Enhanced water quality targets via a MECP Certificate of Technology Assessment.

The preliminary OGS units proposed in the following table have been sized to treat the stormwater runoff for the tributary areas noted in order to meet MECP Enhanced Level of Protection criteria as part of a treatment train approach prior to discharge to the Jock River via naturalized channels as shown on ***Drawing 3***. The OGS total suspended removal rates and preliminary OGS unit details have been attached for reference in ***Appendix D***.

Table 5: OGS Unit ID and Design Characteristics

Area and Unit ID (1)(2)	Drainage Area Target (ha)	Estimated Weighted C Value	Unit Treatment Capacity (L/s)	Unit Model (1)
Area 1 – OGS W1	8.92	0.70	255	CDS Model 5640-10
Area 2 – OGS W2	10.75	0.69	212	CDS Model 5653-10
Area 3 – OGS W3	6.30	0.64	255	CDS Model 4040-8
Area 4 – OGS W4	8.18	0.67	255	CDS Model 5640-10

(1) Providing at minimum 80% TSS removal (until such time that criteria for the MECP's Consolidated Linear Infrastructure approach is in force at which time only 50% is attributed to OGS units).
(2) See ***Drawing 3*** for OGS unit locations. The "W" prefix in the numbering indicates 'West' development area.

The above preliminary OGS unit sizing will achieve required quality controls and, along with other treatment train elements, will have additional beneficial TSS mitigation.

Groundwater

Paterson Group has reviewed the anticipated long term groundwater condition for the development area. Paterson drawing PG5036-10B in ***Appendix D*** demonstrates the long term groundwater elevation across the Conservancy West development area. The elevations range from ~88.5 m in the southern areas up to ~90 m in the northern areas. The lowest storm outlet at the southern boundary is 89.35 m (OGS W1) and all storm sewers, and any infiltration-type LIDs proposed within the development area, are above the anticipated long term groundwater elevation. Profiles for the storm sewers can be seen in ***Drawing 5***.

5.4 Proposed Minor System

The subject property will be serviced by an internal gravity storm sewer system that is to generally follow the local road network and proposed servicing blocks as required. The drainage will be conveyed within the underground piped sewer system to headwall outlets located along the natural heritage corridor, providing hydration to naturalized outlet channels.

Street catchbasins will collect drainage from the streets and front yards, while rear yard catchbasins will capture drainage from backyards. Perforated catch basin leads will be provided in rear yards, except the last segment where they connect to the right-of-way which will be solid pipe, per City standards.

The preliminary rational method design of the minor system captures drainage for storm events up to and including the 2-year (local) and 5-year (collector).. The following table summarizes the standards that will be employed in the detailed design of the storm sewer network. The preliminary drainage area information can be found in ***Drawing 3*** and rational method design sheets are provided in ***Appendix D***.

Table 6: Storm Sewer Design Criteria

Design Parameter	Value
Minor System Design Return Period	1:2 year (PIEDTB-2016-01) for local roads, without ponding 1:5 year (PIEDTB-2016-01) for collector roads, without ponding 1:100 year (PIEDTB-2016-01) for arterial road, without ponding
Major System Design Return Period	1:100 year
Intensity Duration Frequency Curve (IDF) 2-year storm event: A=732.951 | B=6.199 | C=0.810 5-year storm event: A = 998.071 | B = 6.053 | C = 0.814	$i = \frac{A}{(t_c + B)^C}$
Minimum Time of Concentration	10 minutes
Rational Method	$Q = CiA$
Storm sewers are to be sized employing the Manning's Equation	$Q = \frac{1}{n} AR^{2/3} S^{1/2}$
Runoff coefficient for paved and roof areas	0.9
Runoff coefficient for landscaped areas	0.2
Minimum Sewer Size	250 mm diameter
Minimum Manning's 'n' for pipe flow	0.013
Minimum Depth of Cover	1.5 m from crown of sewer to grade
Minimum Full Flowing Velocity	0.8 m/s
Maximum Full Flowing Velocity	6.0 m/s
Clearance from 100-Year Hydraulic Grade Line to Building Opening	0.30 m
Design Parameter	**Value**
Max. Allowable Flow Depth on Municipal Roads	35 cm above gutter (PIEDTB-2016-01)
Extent of Major System	To be contained within the municipal ROW or adjacent to the ROW provided that the water level must not touch any part of the building envelope and must remain below the lowest building opening during the stress test event (100-year + 20%) and 15cm vertical clearance is maintained between spill elevation on the street and the ground elevation at the nearest building envelope (PIEDTB-2016-01)
Stormwater Management Model	DDSWMM (release 2.1), SWMHYMO (v. 5.02) and XPSWMM (v. 10)

Model Parameters	Fo = 76.2 mm/hr, Fc = 13.2 mm/hr, DCAY = 4.14/hr, D.Stor.Imp. = 1.57 mm, D.Stor.Per. = 4.67 mm
Imperviousness	Based on runoff coefficient (C) where Percent Imperviousness = (C - 0.2) / 0.7 x 100%.
Design Storms	Chicago 3-hour Design Storms and 24-hour SCS Type II Design Storms. Maximum intensity averaged over 10 minutes.
Historical Events	July 1st, 1979, August 4th, 1988 and August 8th, 1996
Climate Change Street Test	20% increase in the 100-year, 3-hour Chicago storm
Extracted from City of Ottawa Sewer Design Guidelines, October 2012, and ISSU, and based on recent residential subdivisions in City of Ottawa.	

The peak design flows are calculated based on an average predicted runoff coefficient (C-value) of 0.68 for the development area generally in keeping with the MIR and will require updating, 0.40 for park areas and 0.25 for grassed areas. The runoff coefficients are based on the proposed building envelopes, which have been established based on zoning setbacks and driveway widths and other details (i.e. ROW treatments etc).

There are several trunk sewers proposed and the peak flows are described for the trunk sewers which correspond to the stormwater management design areas as summarized in the following table:

Table 7: Minor System Trunk Sewer Outlets

Area/Outlet # (from east to west)	Trunk Sewer Outlet Headwall	Drainage Area Target (ha)	Peak Flow (L/s) & (L/s/ha)
1 (HW1)	1200 mm diameter @ 0.11%	8.92	953 / 107
2 (HW2)	1200 mm diameter @ 0.11%	10.75	1014 / 94
3 (HW3)	975 mm diameter @ 0.11%	6.30	582 / 92
4 (HW4)	1050 mm diameter @ 0.11%	8.18	699 / 85
Note: See rational design sheet in ***Appendix D*** for details.			

The storm sewers tributary to the various outlets, and associated peak flows, are detailed in the rational method design sheet, enclosed in ***Appendix D***.

The conceptual servicing layout is shown on ***Drawing 2*** in ***Drawings***. As detailed design progresses, alignment and sizing of local storm sewers will be confirmed and additional servicing blocks may be required, potentially triggering minor amendments to the proposed lot fabric in the concept plan. The preliminary sanitary and storm trunk plan and profiles are shown on ***Drawing 5 and 6*** in ***Drawings***.

Hydraulic Grade Line Analysis

A preliminary hydraulic grade line (HGL) modelling analysis has been completed by JFSA to demonstrate that the HGL will be maintained below the ground surface. See the JFSA memo entitled *Barrhaven Conservancy West– Preliminary HGL Analysis (December 2022)* in ***Appendix D*** for details/results. The analysis has been evaluated for various scenarios for the Jock River in order to assess the appropriate HGL boundary condition:

- 5-year water level in Jock River + 100yr rain event; or
- 100-year water level in Jock River + (2/5/10 yr) rain event (deemed to be the critical event).

The HGL results in JFSA's Table 1 (***Appendix D***) demonstrate that the freeboard to the ground surface ranges from 0.50 m to 1.16 m (with an average of 0.75 m) for the critical event noted above.

An updated HGL analysis will be completed for the proposed system at the detailed design stage, based on the above noted events, including historical design storms and climate change stress test as required.

5.5 Proposed Major System

Major system conveyance, or overland flow, will be provided to accommodate flows in excess of the minor system capacity. Overland flow is accommodated by generally storing stormwater up to the 100-year design event in road sags then routing additional surface flow along the road network and service easements towards the proposed stormwater outlets, discharging to the Jock River through the natural heritage corridors, as shown on ***Drawing 1***. The grading design includes a saw-toothed-road design with 0.10% minimum grade from high point to high point in order to maximize available surface storage for management of flows up to the 100-year design event where possible.

5.6 Foundation Drainage (Sump Pumps)

Due to the grade raise restrictions and the proposed storm and sanitary drainage schemes, the road centerlines do not allow for standard basements with a gravity connection to the storm sewer system. As such, because of the constraints on the subject property, sump pumps are proposed to be installed for all residential blocks and residential lots.

The City of Ottawa issued Technical Bulletin *ISTB-2018-04* and *2019-02* for the amendment of the *Ottawa Design Guidelines – Sewer, Second Edition,* October 2012 with respect to the screening criteria for the use of sump pump systems for foundation drainage in Greenfield developments on sites with clay soils. Similar to the development of Conservancy Phase 1 and the Conservancy East (Phase 2) site, ***Conservancy West*** has also been assessed as meeting the required criteria for the use of sump pumps.
One of the screening criterion is with respect to the hydraulic grade line (HGL) for the development wherein the system should be reviewed to demonstrate that the HGL cannot reasonably be lowered any further due to outlet restrictions. The site grading is constrained by the close proximity of the Jock River, which is the receiver of stormwater outflows, and is also constrained by grade raise restrictions for the property.

For the Barrhaven ***Conservancy West*** Lands the grade raise restriction varies between 1.9 m and 2.2 m. Paterson's permissible grade raise plan is contained in ***Appendix E*** for reference (See Section 6 for discussion). Further investigations on the property and potential surcharging or lightweight fill (LWF) underneath garages could increase the permissible grade raise and will be investigated further as part of the detailed design.

The functional grading plan for the subdivision has been prepared with the grade raise restrictions in mind with grades being kept as low as possible.

The proposed centerline of road grades, and subsequently the house grades, do not allow for standard basements with a gravity connection to the storm sewer system. As such, the subdivision will be serviced entirely by sump pumps due to site constraints imposed by grade raise restrictions, HGL elevations and the proximity to the Jock River stormwater outlet.

5.7 Low Impact Development (LID) - Infiltration

The following general Low Impact Development (LID) techniques could be considered for implementation, where possible, as part of detailed design (noting that they have to be weighed against the objectives of the City's sump pump technical bulletins):

- Rear-yard swales should be designed with minimum grades where possible, to promote infiltration;
- Rear-yard catchbasin leads should be perforated (except for the last segment connecting to the storm sewer within the ROW), to promote infiltration; and,
- Where eavestroughs are provided on residential units, they are to be directed to landscaped surfaces, to promote infiltration.
- Furthermore, the following techniques can be examined as part of detailed landscaping design of the park block; and,
- Micro-grading can be considered to promote infiltration.

The long term groundwater anticipated is demonstrated on Paterson Drawing *PG5036-10B* in ***Appendix D*** as previously noted. The infiltration measure noted in Section 5.2 will contribute some infiltration and quality benefits as first flush stormwater is conveyed into the filtration trench. The amount of infiltration is dependent upon the surrounding soils, but the proposed design will optimize the potential on the site. JFSA has completed a high level water budget review of the site which is provided in ***Appendix D*** for reference.

To assess the water budget for the site under both pre- and post-development conditions, a SWMHYMO model was developed by JFSA. This model was run using 36 years of hourly rainfall data from the Ottawa International Airport from 1967 to 2003 (excluding missing 2001 rainfall data), the average annual runoff volumes from the subject site were computed and compared. The conceptual LIDs have been included in the model through the use of ROUTE RESERVOIR commands, which represent the storage volume and infiltration rates of each of these proposed LID features. After running each of the models for the 36 years, the annual runoff and infiltration results were extracted and the annual average water budget for each scenario calculated. Full summary tables for each year and scenario have been provided in Table A1 in ***Appendix D***.

The analysis concludes that with the proposed LID the existing annual water infiltration volume can be met and exceeded. The extents of the LID system can be refined at detailed design to optimize LID locations and to minimize the extent of infrastructure to be maintained.

5.8 Existing Watercourses

Foster Ditch

The Foster Ditch borders the eastern boundary of the ***Conservancy West*** development area. It originates south of Fallowfield Road, west of Cedarview Road and flows south until it converges with the Jock River south of McKenna Casey Drive. The ditch is approximately 3,200 m long and has been artificially straightened. This non-municipal drain is a fish bearing tributary of the Jock River with approximately 335 ha of catchment area. The surrounding land use is urban and vacant lands. Riparian vegetation is very sparse consisting of mostly grasses with a few shrubs.

As noted in the ***Jock River SWS***, to ensure protection of the aquatic habitat north of the Jock River, a development setback should be provided for all of the tributaries. Further studies will determine the development setback, which will be the greater of: 1) regulatory floodplain; 2) meander belt width; and 3) aquatic setback, whichever is greater.

Coordination with be undertaken for determinations of the appropriate culvert sizes and configuration for development road crossings of the Foster.

O'Keefe Municipal Drain

The O'Keefe Drain is located east of and runs parallel to Highway 416. The drain extends from south of Fallowfield Road and enters the Jock River south of McKenna Casey Drive. The drain is approximately 3,100 m in length and has been artificially straightened through development areas to the north and to follow the depression between agricultural lands through the subject property. The predominant land use is agricultural. The riparian vegetation consists mainly of grasses and some shrubs with thicker forested patches as the reach approaches the Jock River.

Coordination with be undertaken with the City's Drainage group for determinations of the appropriate culvert sizes and configuration for development road crossings of the OMD. Initial sizing will be as per the Engineer's Report for the O'Keefe Drain.

5.9 Floodplain

On November 8th 2019 the RCVA gave permission to Barrhaven Conservancy Development Corporation to cut and fill on the subject property under permit RV5 44/19 pursuant to review under Section 28 of the Conservation Authorities Act, regulation 174/06. The application and approval by the RVCA was supported by a 2D HEC-RAS model prepared by JFSA. The JFSA model identified the existing and proposed 100-year water levels and permissible extent of fill placement.

The works pursuant to the above-mentioned permit were completed and accepted by the RVCA on May 31st 2020. Options to complete the fill area boundary as set by JFSA included building a structural face of fill (retaining wall) to the limits of the 100-year floodplain boundary, or, building a berm with the toe of slope at the 100-year floodplain boundary. As-builts for the fill placement were subsequently provided and approved by the RVCA, resulting in the May 31st approval noted above and the current 100-year floodplain boundary delineation. The toe of any material placed corresponds to the approved 100-year floodplain line.

5.10 Stormwater Servicing Conclusions

The stormwater runoff is designed to be captured by an internal gravity sewer system that will convey flows to multiple outlet locations equipped with end of line OGS units. A proposed treatment train arrangement of 1.0 m deep sump catchbasins to optimize catchbasin sump retention of solids, as well as select catchbasin locations with connected infiltration-type subdrains will provide the required quality control treatment to achieve the Enhanced Level of protection. Downstream of the storm outlets along the southern development boundary will be naturalized channels where treated stormwater will be conveyed through the natural heritage corridor prior to discharge to the Jock

River. It is anticipated that quantity control is not required for the Jock River. Notwithstanding, some quantity control by means of erosion storage will be included.

A preliminary Hydraulic Grade Line (HGL) modelling analysis has been completed for the ***Conservancy West*** development area at this time and demonstrates that the HGL is maintained below the ground surface with freeboards ranging from 0.50 m to 1.16 m for critical event conditions. Further detailed HGL review will be completed for the proposed system at the detailed design stage. Due to the grade raise restrictions, and the proposed storm and sanitary drainage layout, the road centerlines do not allow for standard basements with a gravity connection to the storm sewer system. As such, because of the constraints on the subject property, sump pumps are proposed to be installed for all residential blocks and residential lots.

The ***Conservancy West*** development area will be outside of the Jock River's regulatory floodplain area.

Appropriate setbacks from existing watercourse are incorporated into the draft plan based on advancement/finalizing of studies to assess the various determining criteria.

6.0 GRADING

A site grading arrangement has been developed to optimize earthworks and provide major system conveyance to the receiving outlets, and naturalized channels, which ultimately outlet to the existing Jock River drainage network. The proposed grading can be found in ***Drawing 1*** in ***Drawings***.

The development area is outside of the Jock River regulatory flood plain limits. The site grading will be a minimum of 0.50m above the 100-year regulatory limit event of the Jock River.

6.1 Geotechnical Conditions

Paterson completed a geotechnical investigation for the Conservancy West lands as follows:

- Geotechnical Investigation – Proposed Residential Development, Conservancy Lands West (Paterson Group, October 19, 2021);

The existing ground surface across the site is relatively level with approximate ground surface elevation varying between 91 m and 92 m. The subsurface profile generally consists of an approximate 50 mm to 360 mm thick layer of topsoil underlain by a silty clay deposit.

Due to the presence of a silty clay deposit, permissible grade raise restrictions are recommended for this site. The recommended permissible grade raise varies between 1.9 m to 2.2 m. Figure PG5036-5 '*Permissible Grade Raise Plan'* by Paterson is enclosed in ***Appendix E*** for reference. At the time of detailed design, efforts will be made to mitigate any exceedances and detailed review and signoff by a licensed Geotechnical Engineer will be required. Where grade raises exceed the permissible levels the Engineer will recommend appropriate measures to mitigate where required (i.e. light weight fill or pre-consolidation etc).

The following additional grading criteria and guidelines will be applied to detailed design, per ***City of Ottawa Guidelines***:

- Driveway slopes will have a maximum slope of 6%;
- Grading in grassed/landscaped areas to range from 2% to 3:1, with terracing required for slopes larger than 7%;
- Swales are to be 0.15m deep with 3:1 side slopes unless otherwise indicated on the drawings; and,
- Perforated pipe will be required for drainage swales if they are less than 1.5% in slope.

The geotechnical analysis of the site, published under separate cover in support of the development applications, provides additional information about the suitability of the site for the proposed services and grading scheme. At the time of detailed design, detailed review and signoff by a licensed Geotechnical Engineer will be required.

7.0 EROSION AND SEDIMENT CONTROL

Soil erosion occurs naturally and is a function of soil type, climate and topography. The extent of erosion losses is exaggerated during construction where vegetation has been removed and the top layer of soil becomes agitated.

Prior to topsoil stripping, earthworks or underground construction, erosion and sediment controls are implemented and will be maintained throughout any construction phase.

The following specific recommendations to the Contractor will be included in contract documents.

- Limit extent of exposed soils at any given time.
- Re-vegetate exposed areas as soon as possible.
- Minimize the area to be cleared and grubbed.
- Protect exposed slopes with plastic or synthetic mulches.
- Install silt fence to prevent sediment from leaving the site and entering existing watercourses, and clean and maintain throughout construction.
- Install catchbasin inserts during construction to protect from silt entering the storm sewer system.
- Install mud mats in order to prevent mud tracking onto adjacent roadways.
- No refueling or cleaning of equipment near existing watercourses.
- No material stockpiles within 30m of existing watercourses, unless otherwise permitted by RVCA and City of Ottawa.
- Provide sediment traps and basins during dewatering.
- Plan construction at proper time to avoid flooding.
- The Contractor will, at every rainfall, complete inspections to ensure proper performance.
- Erosion and sediment controls will remain in place until the working areas have been stabilized and re-vegetated.

8.0 UTILITIES

Utility services extending to the site may require connections to multiple existing infrastructure points: consultation with Enbridge gas, Hydro Ottawa, Rogers, and Bell is required as part of the development process to confirm the servicing plan for the subject lands.

9.0 CONCLUSION AND RECOMMENDATIONS

This AES provides details on the planned on-site municipal services for the subject property and demonstrates that adequate municipal infrastructure capacity is expected to be available for the planned development of the subject property.

- The subject lands have been reviewed by Stantec to confirm that servicing is feasible by City of Ottawa PZ SUC. Several alternatives were presented to confirm that servicing is feasible. The water supply network will be expanded through neighboring properties to meet the water demands of the proposed concept plan, via the trunk watermain network and local watermains identified. Detailed modelling will confirm phasing of the extensions of trunk watermains and sizing of the local watermain network.

- The subject property will be serviced by local sanitary sewers, an on-site trunk sanitary sewer, and the off-site SNC sanitary sewer as defined in previous reports. This AES continues to confirm that the expansion of the drainage areas from the ***2019 Novatech SNC Memo*** to include the entirety of the subject property has no negative impacts. There is residual capacity in the downstream SNC providing sufficient capacity for the peak sanitary flows for the subject property, including external commercial and community park flows. Flows projected for this development area are lower than flows previously projected in the Conservancy East development downstream.

- Stormwater service is to be provided by capturing stormwater runoff by an internal gravity sewer system that will convey flows to various outlets along the southern boundary to proposed naturalized channels. Prior to discharge from the development, any first flush stormwater will have passed through an end of line OGS unit for quality control. The OGS units will provide an Enhanced Level of Protection quality control treatment for stormwater in combination with an upstream treatment train of measures such as 1.0 m deep catchbasin sumps and LID system prior to discharge from the development. It is anticipated that quantity control will not be required for discharges to the Jock River.

- A preliminary Hydraulic Grade Line (HGL) modelling analysis has been completed at this time and demonstrates that the HGL is maintained below the ground surface. Another detailed HGL review will be completed for the proposed system at the detailed design level.

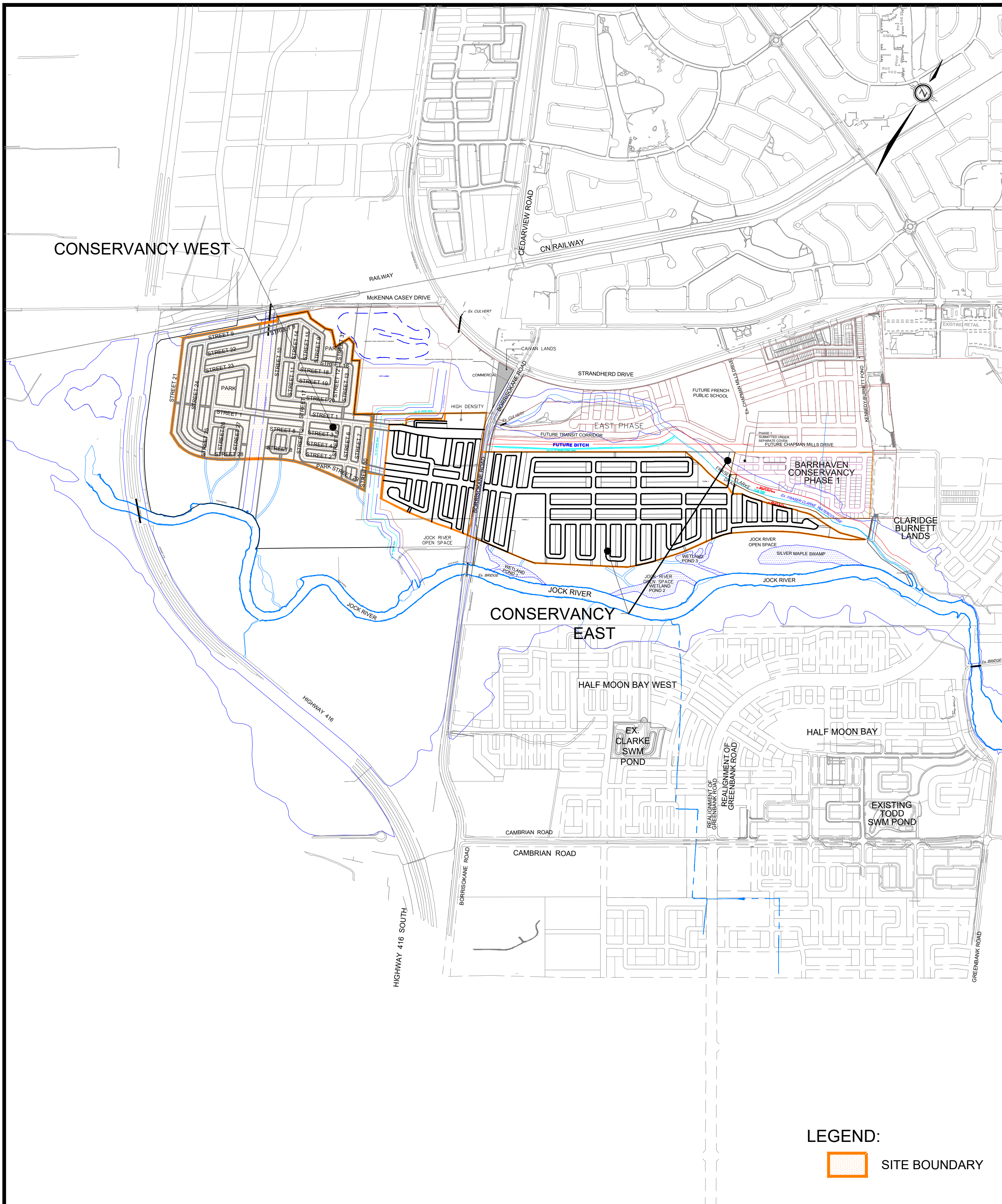
- A preliminary water budget analysis has been completed by JFSA at this time and indicates that pre-development infiltration levels can be met.
- Sump pumps are proposed to be installed for all units within residential blocks and lots;
- The site will be subject to grade raise restrictions ranging from 1.9 m to 2.2 m;
- The proposed servicing and grading plans are expected to meet all City, RVCA, and MECP requirements as set out in background studies and current standards.
- Prior to detailed design of the infrastructure presented in this report, this AES will require approval under the Planning Act as supporting information for the Plan of Subdivision application. Project-specific approvals are also expected to be required for the infrastructure presented in this report from the City of Ottawa, MECP, and Rideau Valley Conservation Authority, among other agencies.

Prepared by,
David Schaeffer Engineering Ltd.

Per: Kevin L. Murphy, P.Eng.

20230113_AES_Conservancy West_2nd_Subm.doc

FIGURES & DRAWINGS



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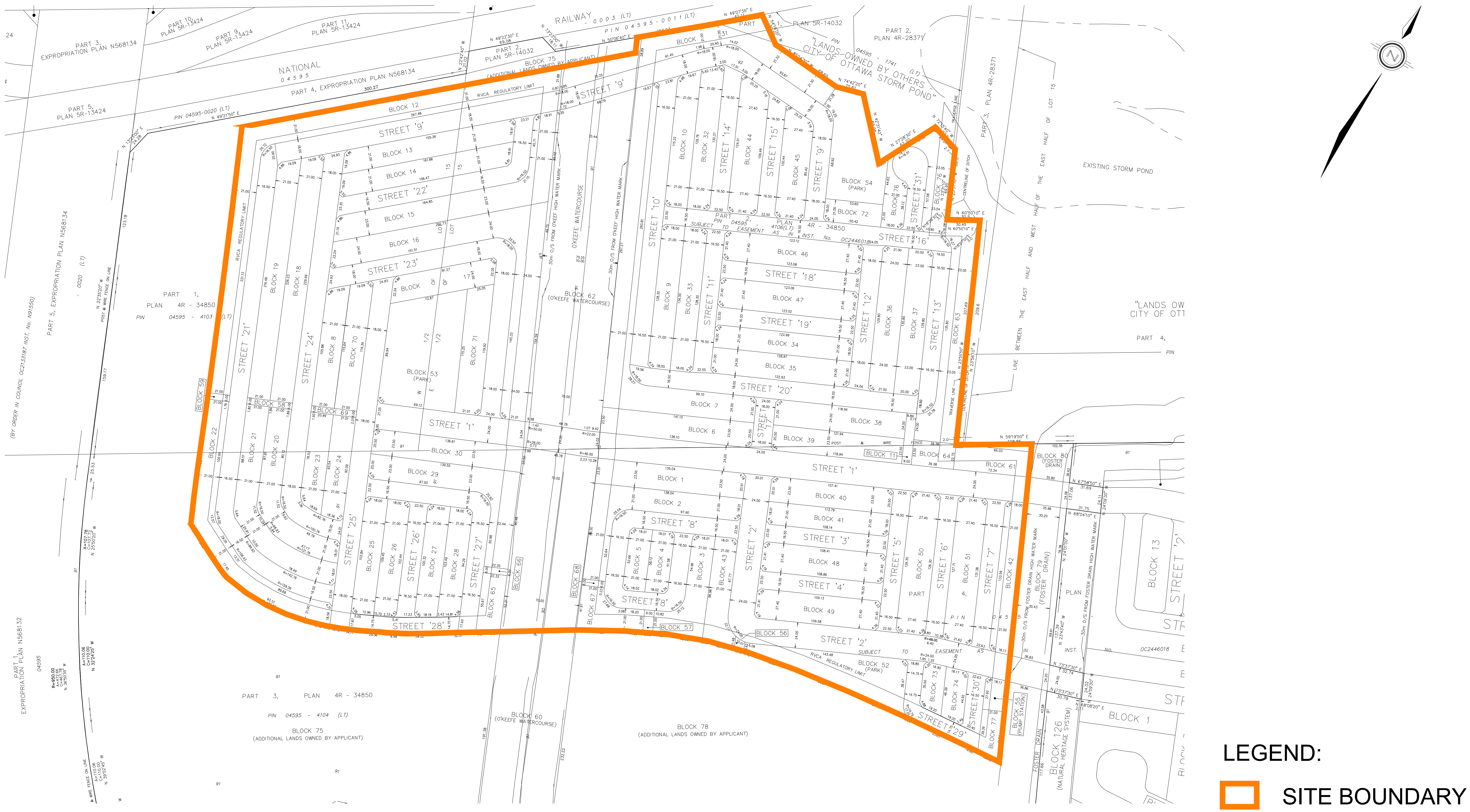
BARRHAVEN CONSERVANCY WEST

KEY PLAN

CITY OF OTTAWA

DATE:	DECEMBER 2022
SCALE:	1:20000
PROJECT No.:	20-1226
FIGURE:	1



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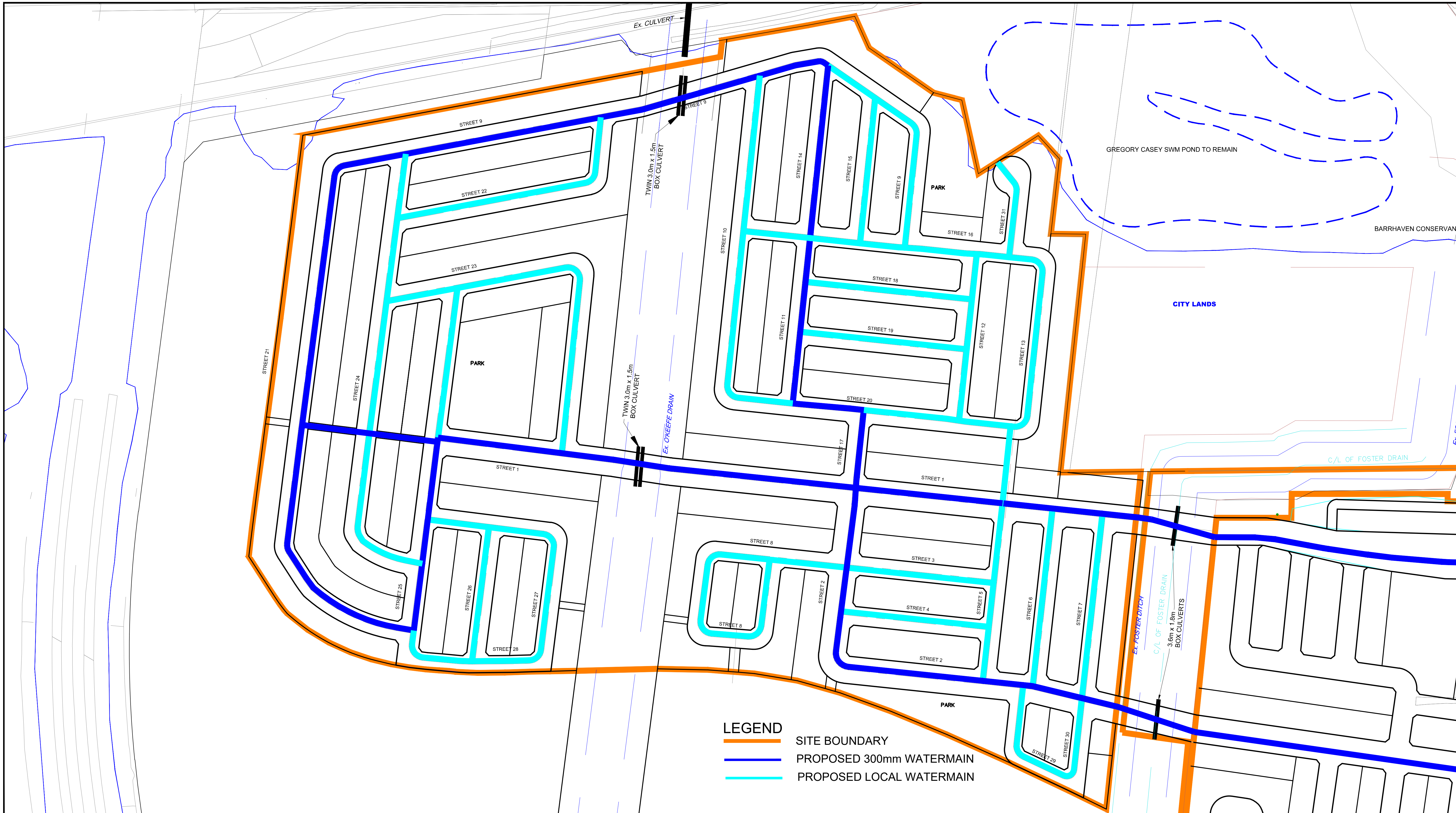
BARRHAVEN CONSERVANCY WEST
SUBDIVISION PLAN
CITY OF OTTAWA

PROJECT No.:	20-1226
SCALE:	NTS
DATE:	DECEMBER 2022
FIGURE:	2



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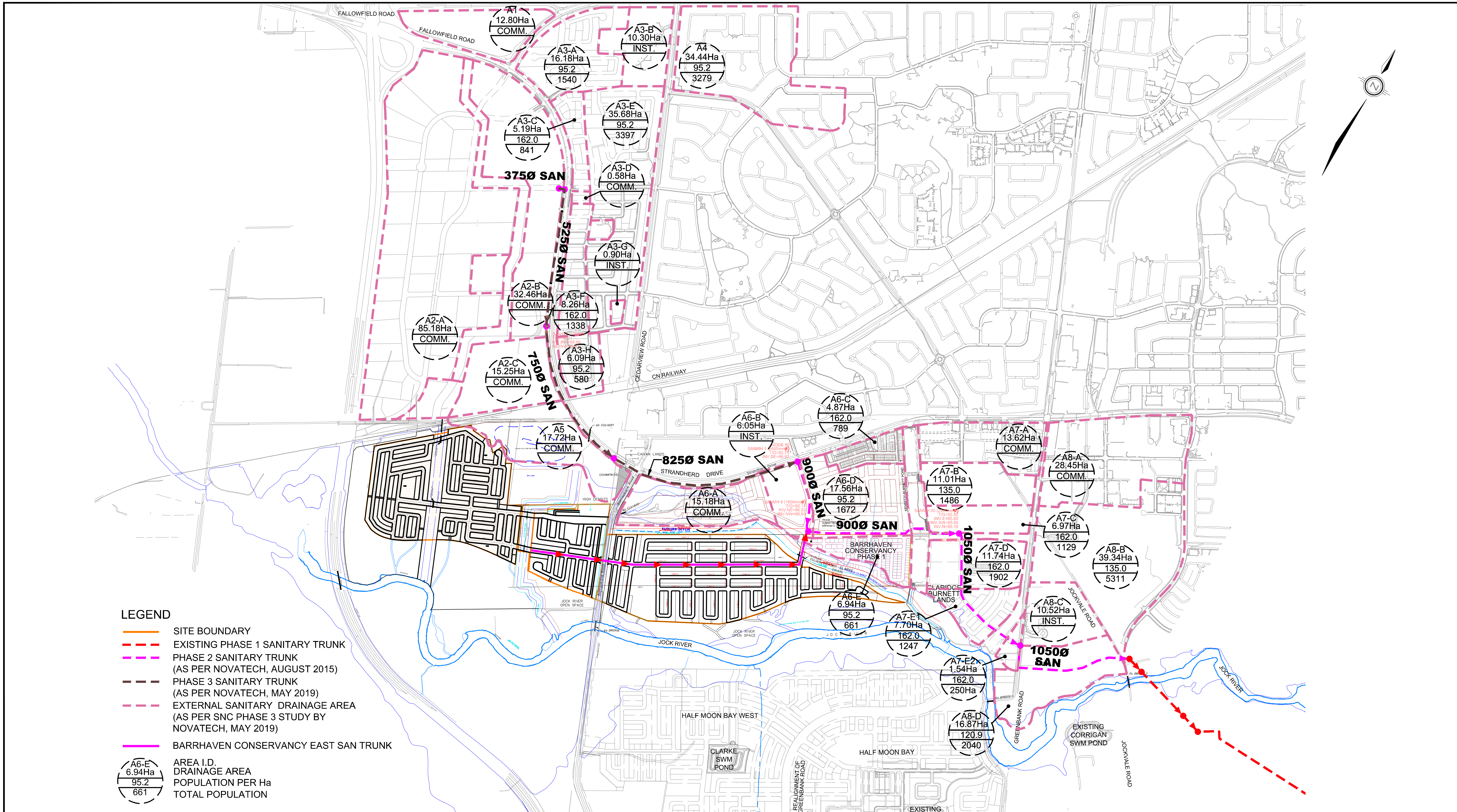
BARRHAVEN CONSERVANCY WEST
WATERMAIN SERVICING PLAN
CITY OF OTTAWA

PROJECT No.:	20-1226
SCALE:	1:3000
DATE:	DECEMBER 2022
FIGURE:	3



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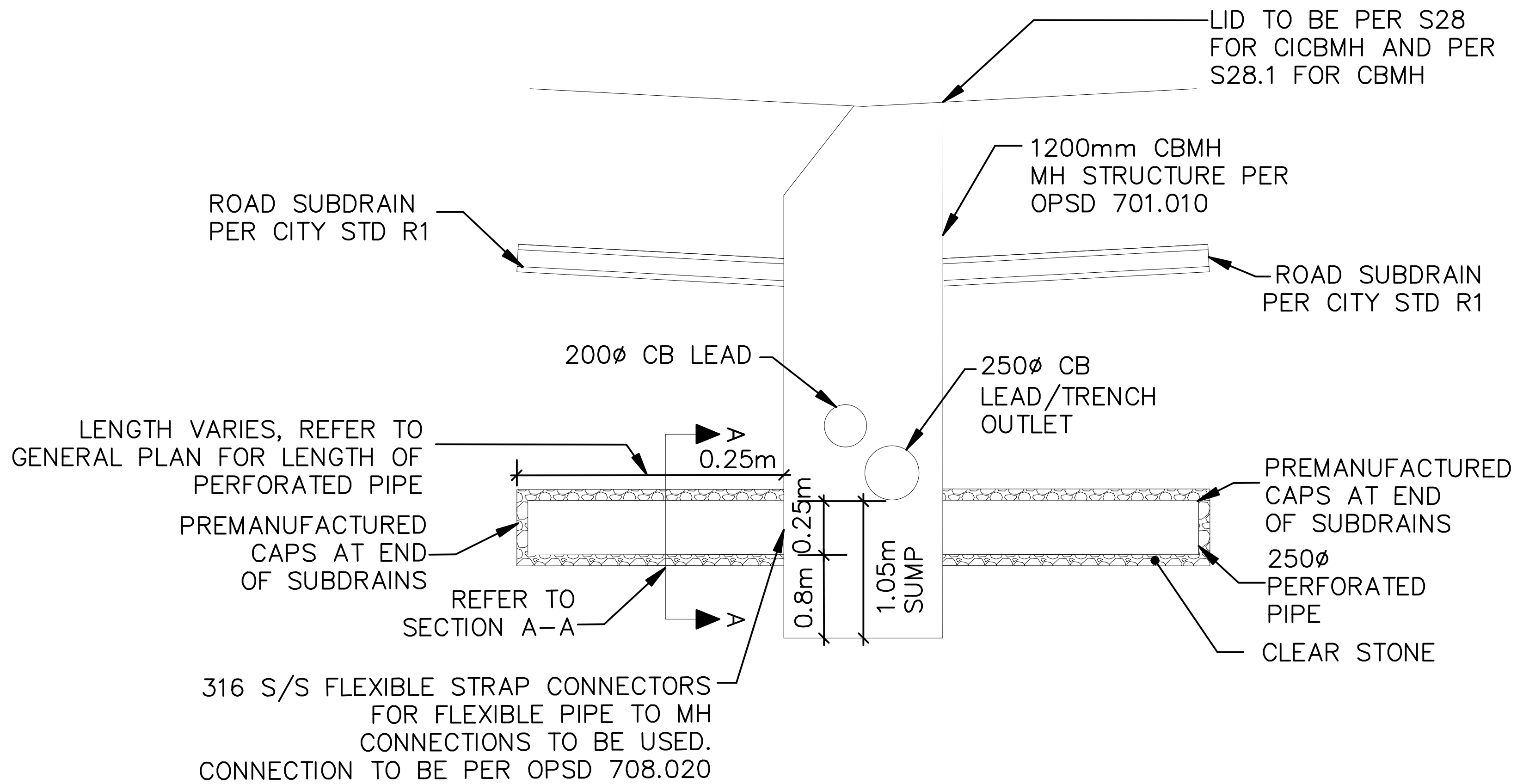
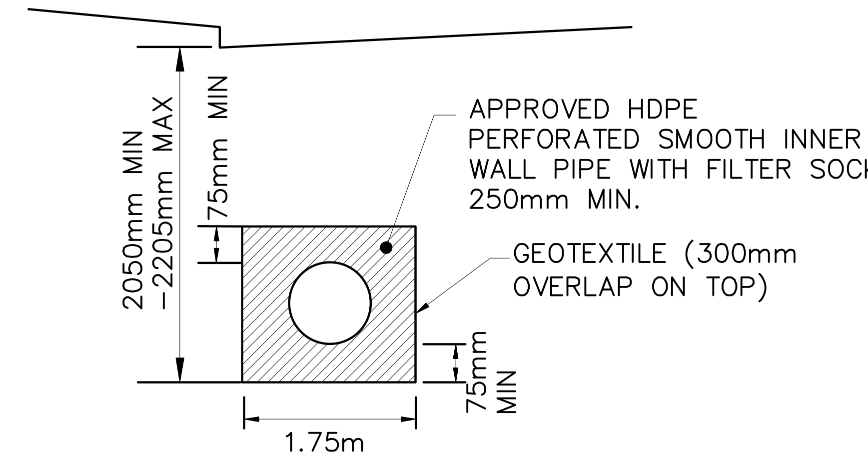
BARRHAVEN CONSERVANCY WEST
EXTERNAL SANITARY SERVICING
CITY OF OTTAWA

PROJECT No.:	20-1226
SCALE:	1:18000
DATE:	DECEMBER 2022
FIGURE:	4



INFILTRATION TRENCH DETAIL FOR CBMHs
SCALE: N.T.S.



SECTION A-A
SCALE: N.T.S.

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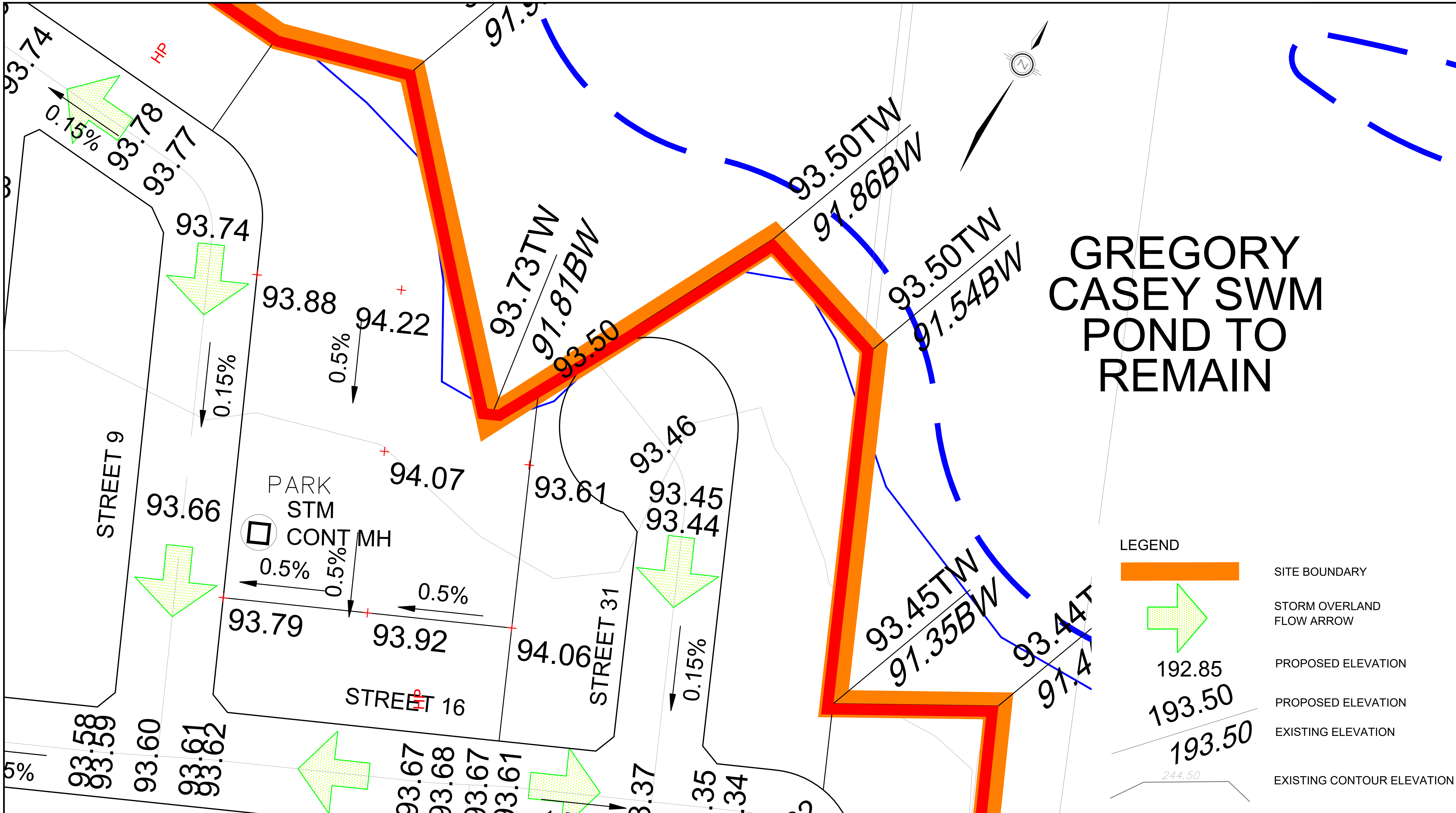
BARRHAVEN CONSERVANCY WEST
FILTRATION SYSTEM DETAILS
CITY OF OTTAWA

PROJECT No.:	20-1226
SCALE:	NTS
DATE:	DECEMBER 2022
FIGURE:	5



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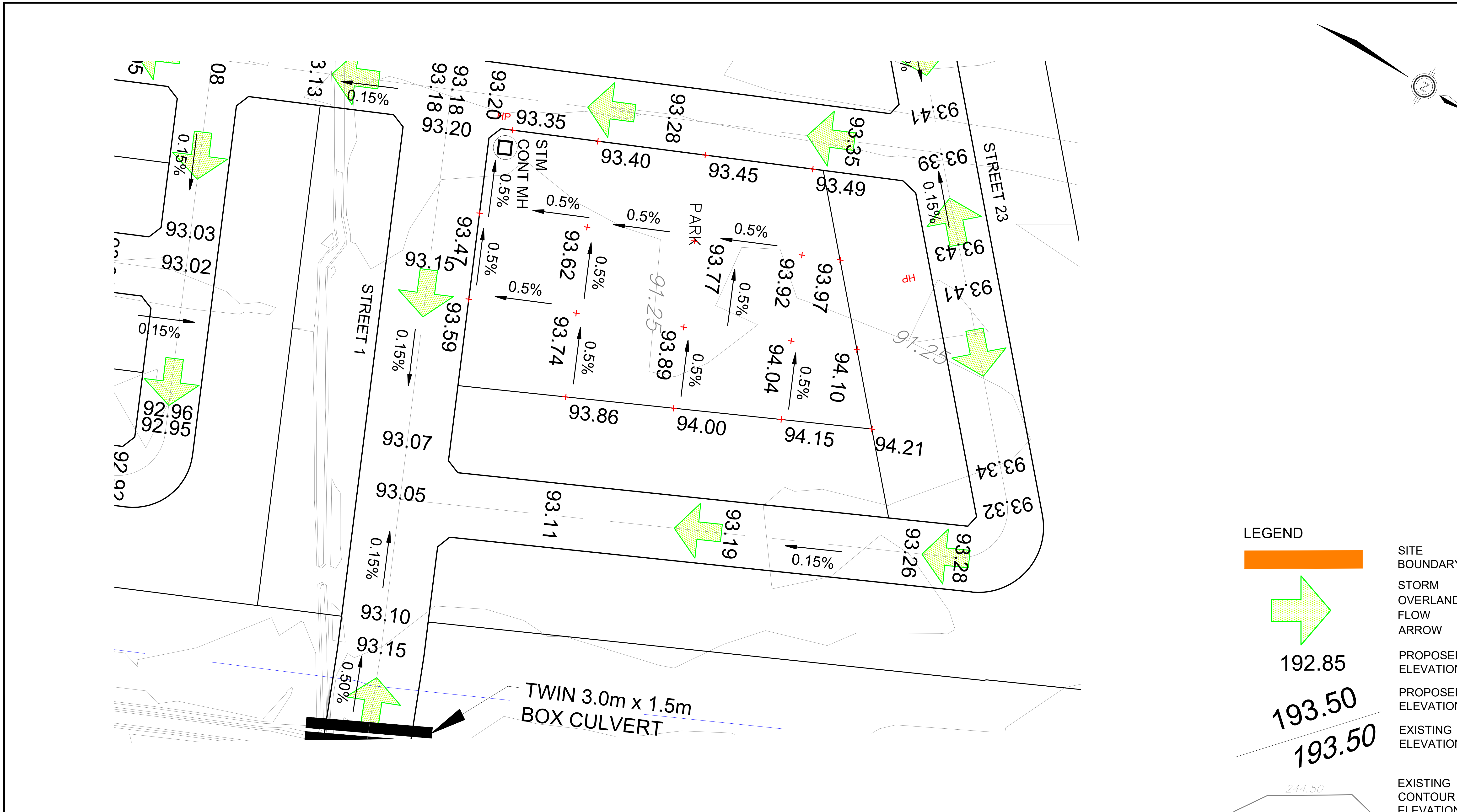
BARRHAVEN CONSERVANCY
CONCEPTUAL PARK 1 GRADING PLAN
CITY OF OTTAWA

PROJECT No.:	20-1226
SCALE:	1:1500
DATE:	DECEMBER 2022
FIGURE:	6



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BARRHAVEN CONSERVANCY EAST
CONCEPTUAL PARK 2 GRADING PLAN
CITY OF OTTAWA

PROJECT No.:	1180
SCALE:	1:1000
DATE:	DECEMBER 2021
FIGURE:	7

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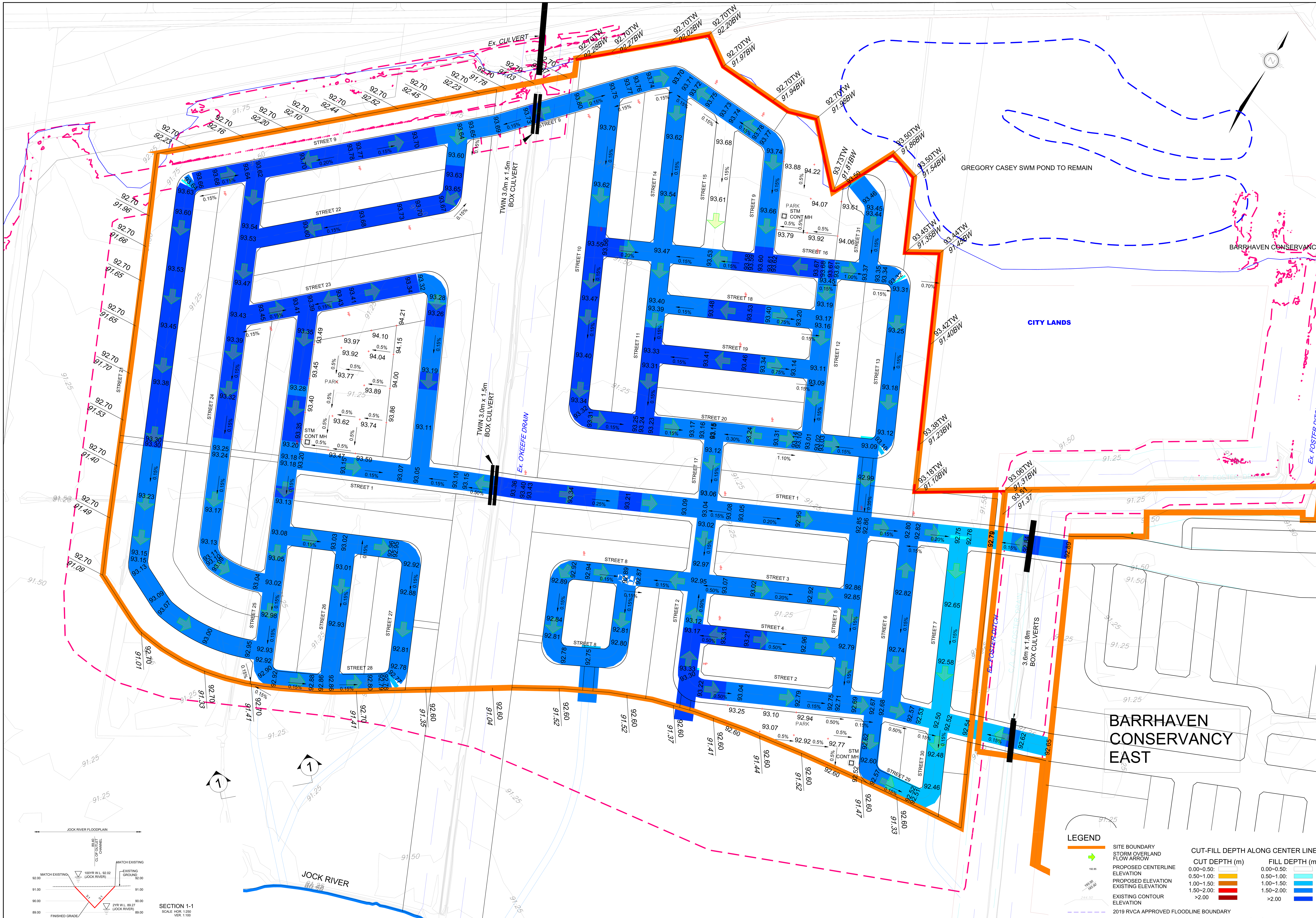
BARRHAVEN CONSERVANCY
CONCEPTUAL PARK 3 GRADING PLAN
CITY OF OTTAWA

PROJECT No.:	20-1226
SCALE:	1:1500
DATE:	DECEMBER 2022
FIGURE:	8



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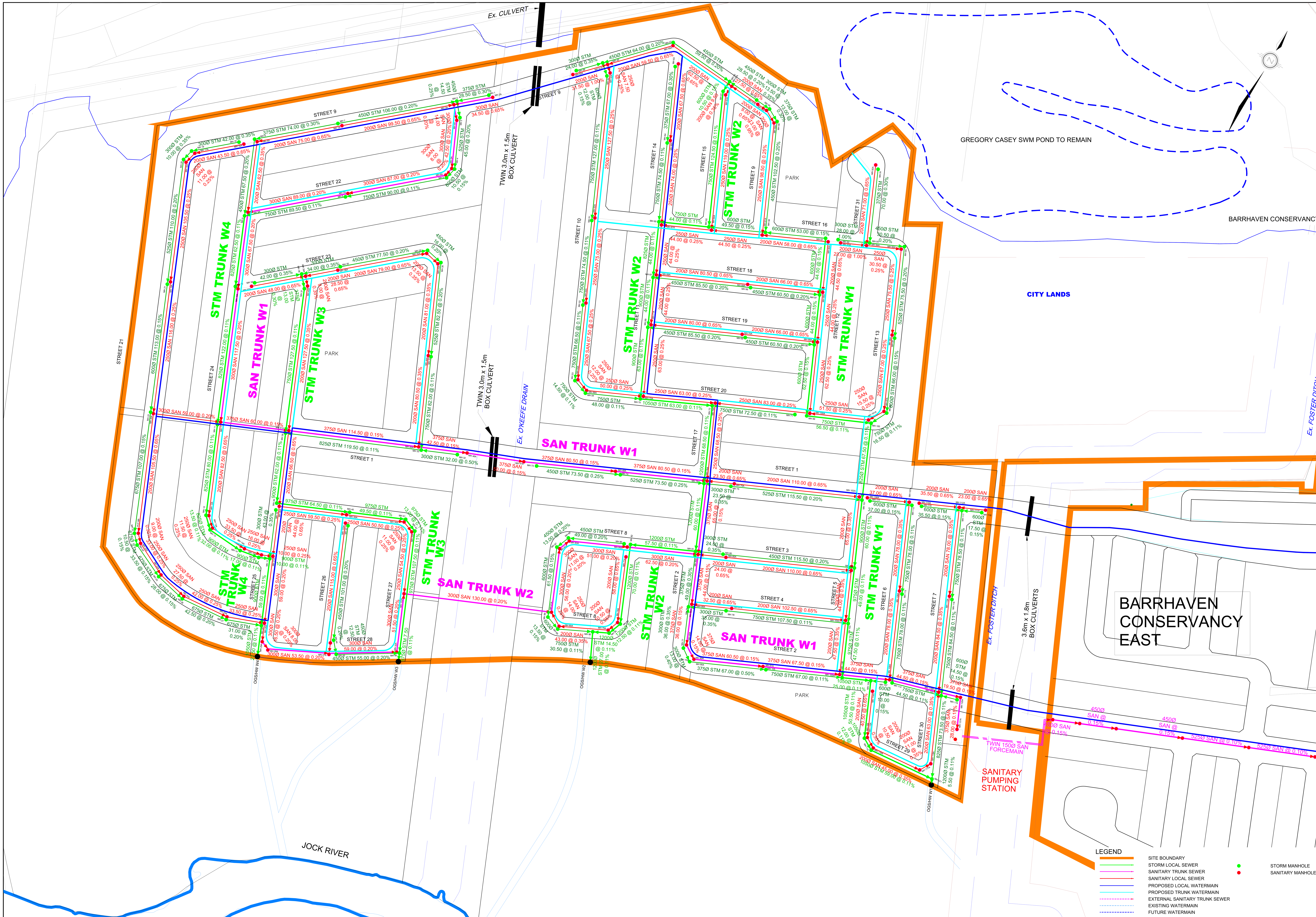
BARRHAVEN CONSERVANCY WEST
CONCEPTUAL GRADING PLAN
CITY OF OTTAWA

PROJECT No. :	20-1226
SCALE:	1:1000
DATE:	DECEMBER 2022
DRAWING No.	1



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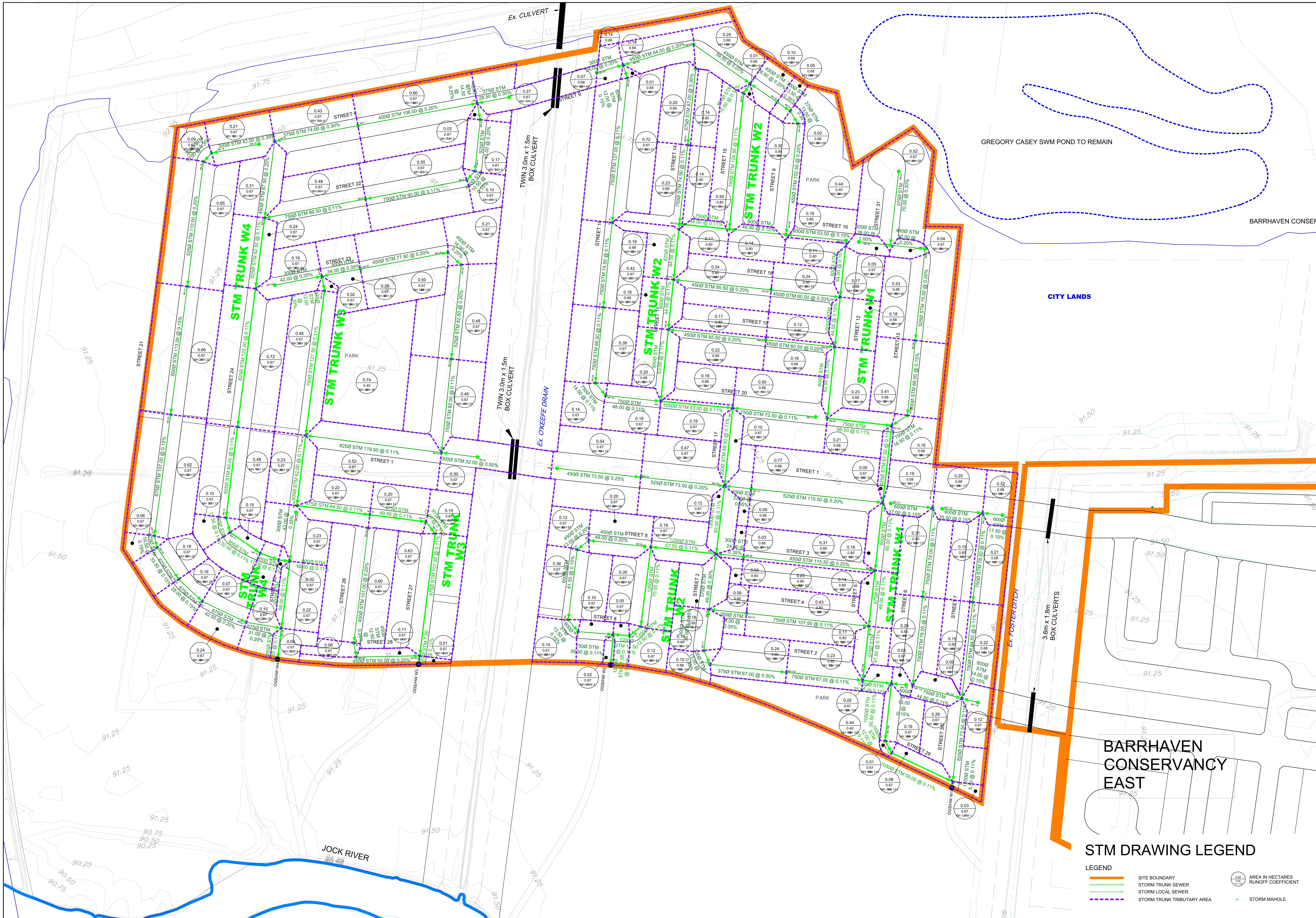
BARRHAVEN CONSERVANCY WEST
CONCEPTUAL SERVICING PLAN
CITY OF OTTAWA

PROJECT No. :	20-1226
SCALE:	1:1000
DATE:	DECEMBER 2022
DRAWING No.	2



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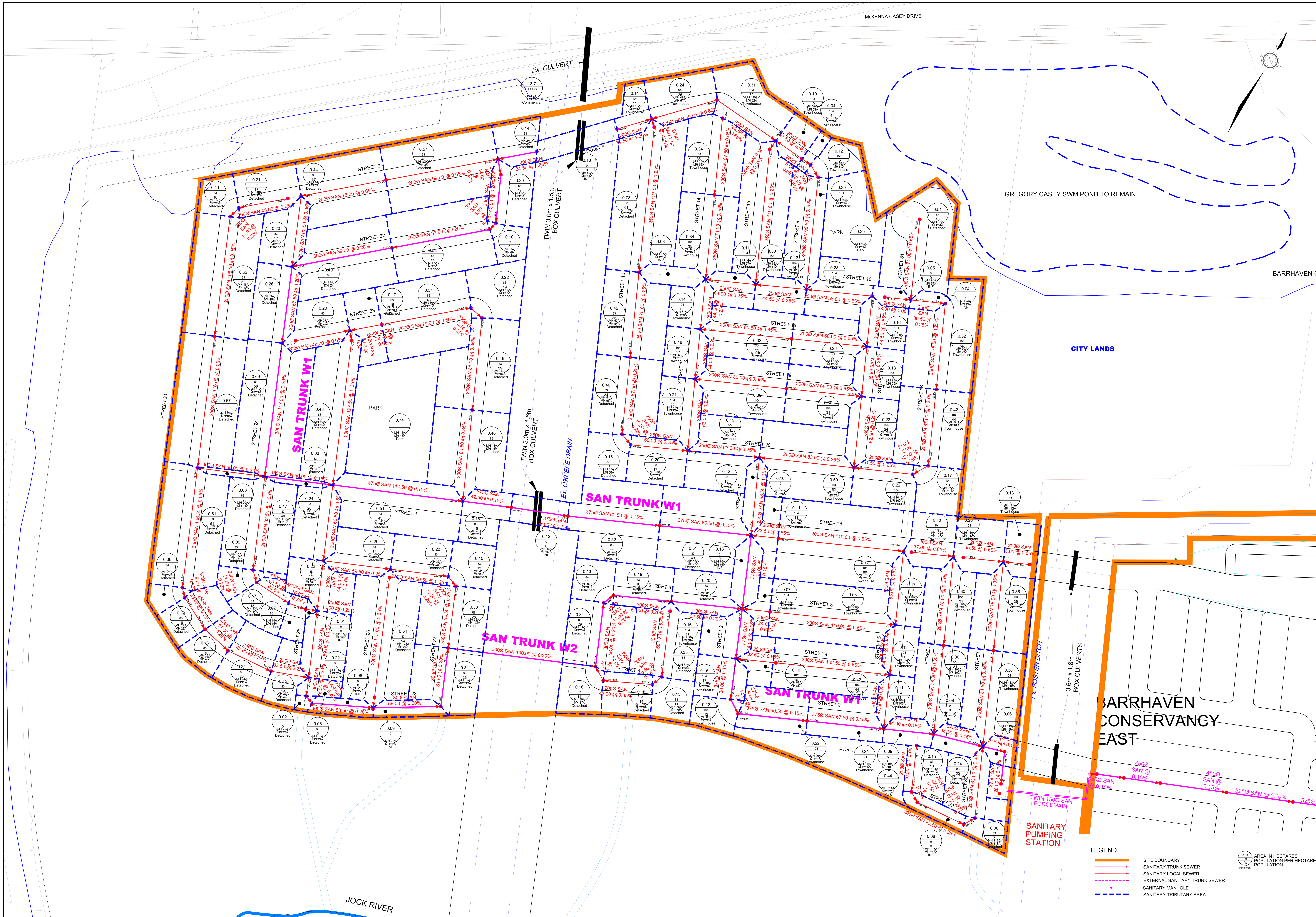
BARRHAVEN CONSERVANCY WEST
STORM TRIBUTARY AREA
CITY OF OTTAWA

PROJECT No. :	20-1226
SCALE:	1:1000
DATE:	DECEMBER 2022
DRAWING No.	3



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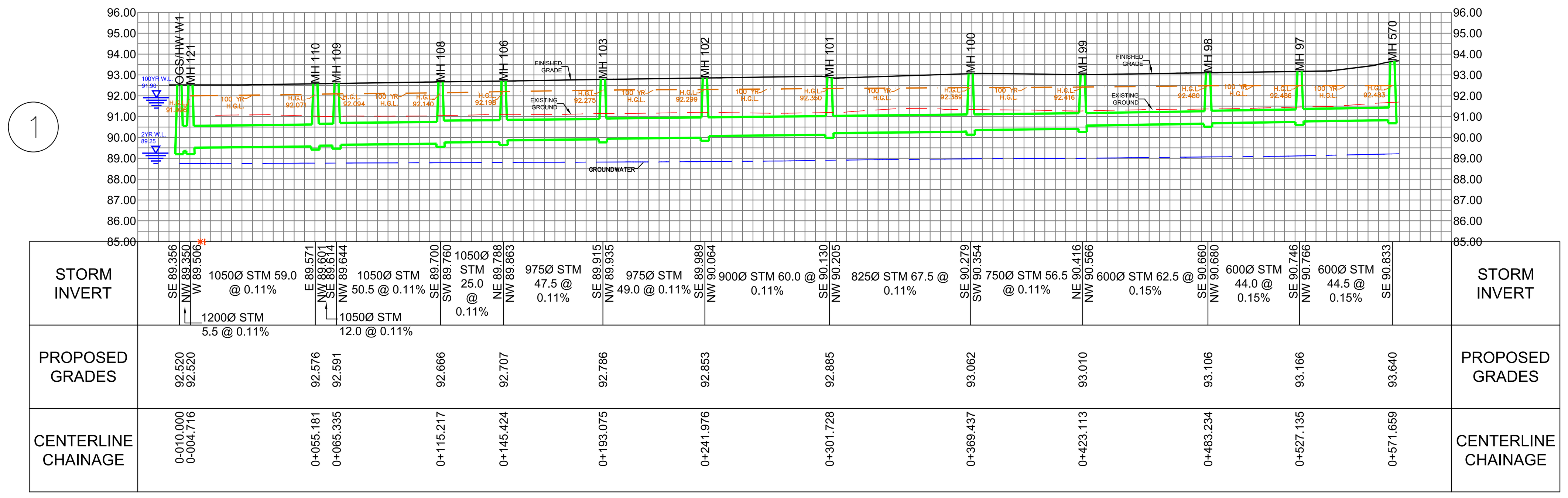
BARRHAVEN CONSERVANCY WEST
SANITARY TRIBUTARY AREA
CITY OF OTTAWA

PROJECT No. :	20-1226
SCALE:	1:1000
DATE:	DECEMBER 2022
DRAWING No.	4

STM TRUNK W1

1



STM TRUNK W2

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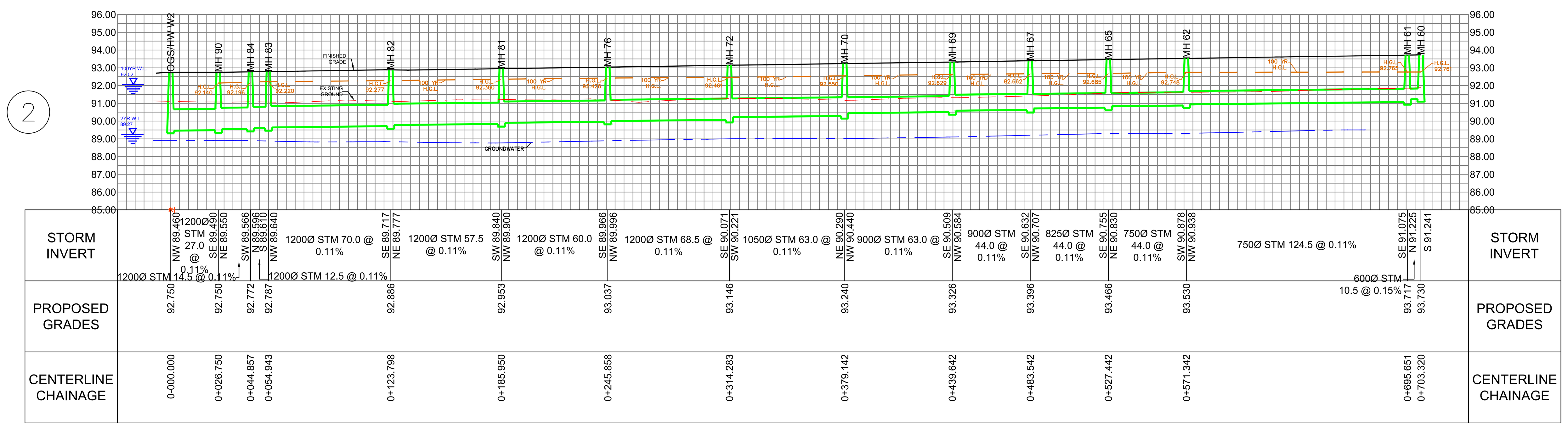

STM TRUNK W3

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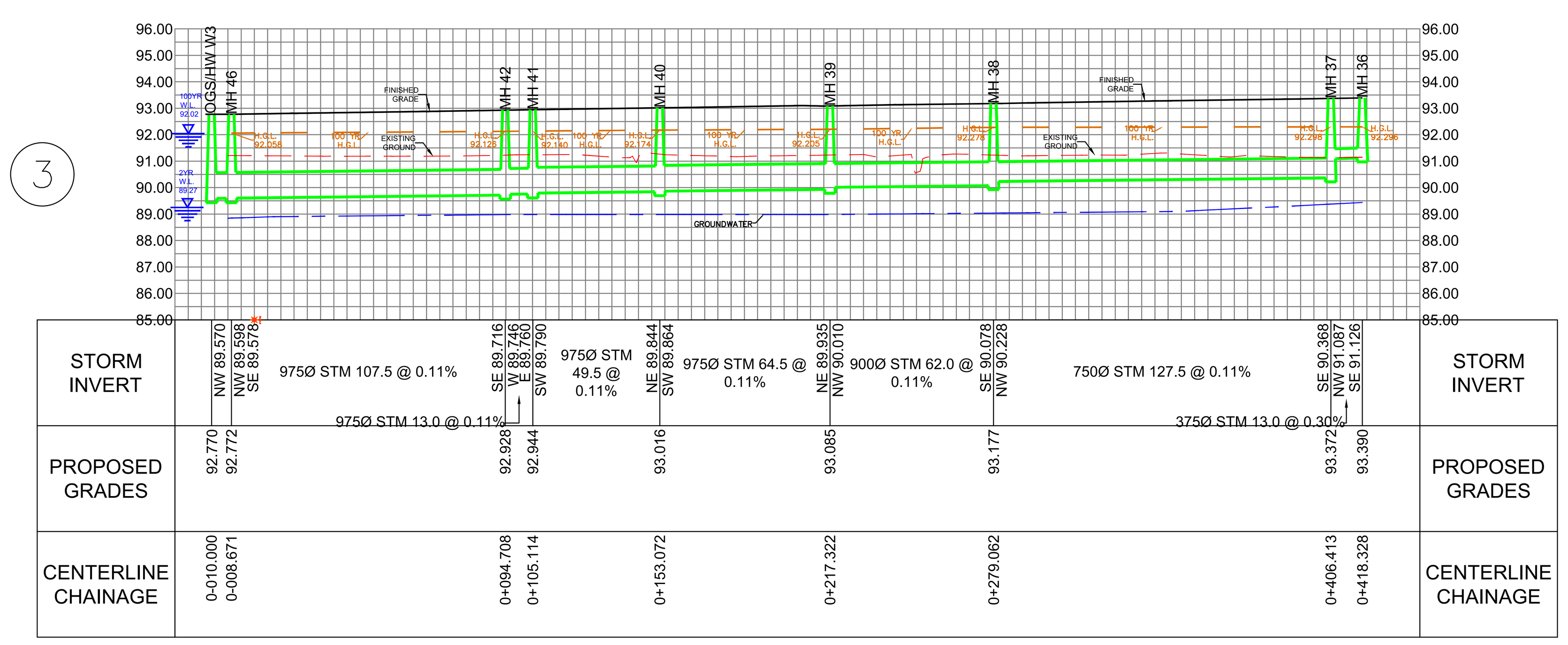

STM TRUNK W4

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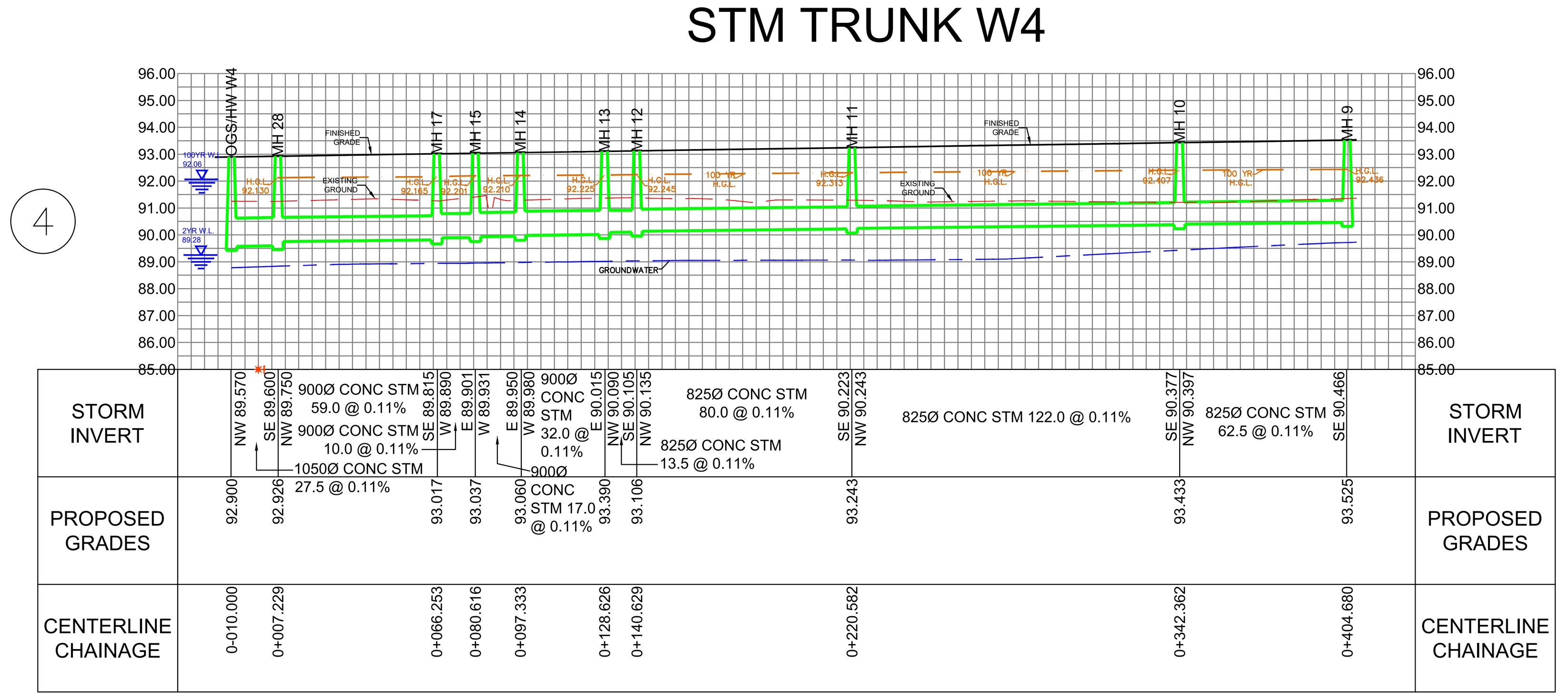

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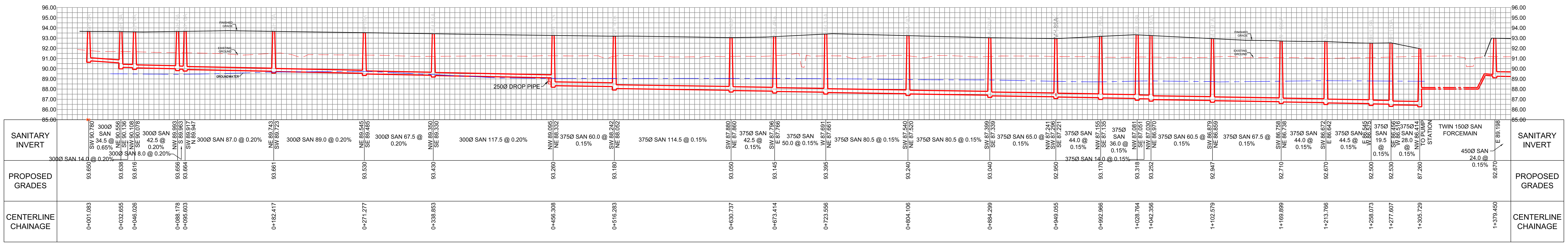
BARRHAVEN CONSERVANCY WEST
STORM TRUNK PROFILES
CITY OF OTTAWA

PROJECT No. :	20-1226
SCALE:	1:1500
DATE:	DECEMBER 2022
DRAWING No.	5

SAN TRUNK W1



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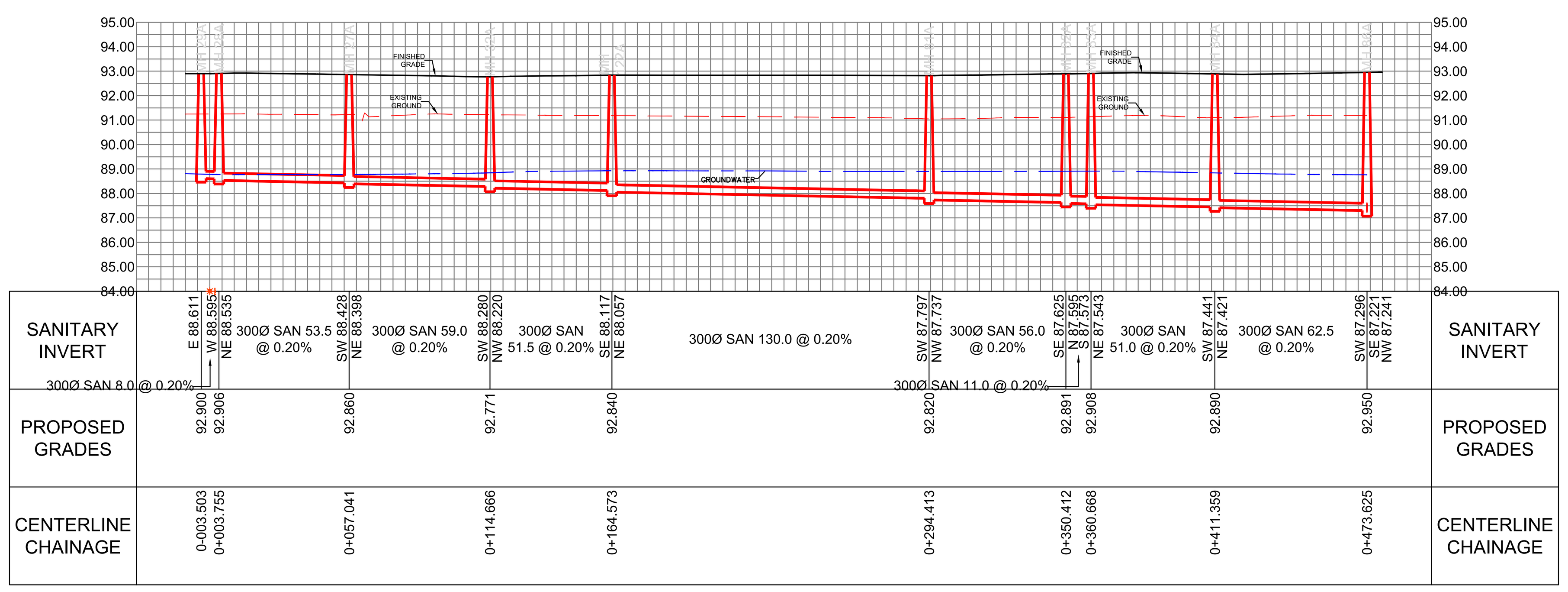

SANITARY SEWER NOTE:

WHERE SANITARY SEWER ARE PLACED BELOW THE LONG TERM GROUND WATER LEVEL AS DETERMINED BY GEOTECHNICAL ENGINEER, MH SECTIONS ARE TO BE SEALED TIGHT AND HAVE A MEMBRANE ON THE OUTSIDE PLUS BLUE SKIN WRAPPING. WATERMAIN GRADE PVC SEWER PIPE TO BE USED FOR SANITARY PIPES. GLUED PIPE SECTIONS ARE NOT PERMITTED.

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BARRHAVEN CONSERVANCY WEST
SANITARY TRUNK PROFILES
CITY OF OTTAWA

PROJECT No. :	20-1226
SCALE:	1:1500
DATE:	DECEMBER 2022
DRAWING No.	6

APPENDIX A

GENERAL

Content Copy Of Original

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 8129-AB7LDF
Issue Date: June 23, 2016

City of Ottawa
100 Constellation Cresent West, 6th Floor
Ottawa, Ontario
K2G 6J8

Site Location: Jockvale Road and Strandherd Drive
City of Ottawa, Ontario

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act , R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

sanitary sewers to be constructed in the City of Ottawa, on various vacant development lands (from Station 0+003 to Station 2+517), Greenbank Road (from Station 1+846 to Station 1+947), and Jockvale Road (from Station 2+430 to Station 2+517);

all in accordance with the application form from the City of Ottawa, dated June 22, 2016, including final plans and specifications prepared by Novatech Engineers, Planners and Landscape Architects.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary***** Environmental Review Tribunal 655 Bay Street, Suite 1500	AND	The Director appointed for the purposes of Part II.1 of the Environmental Protection Act

Toronto, Ontario
M5G 1E5

Ministry of the Environment and Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 23rd day of June, 2016

Gregory Zimmer, P.Eng.
Director
appointed for the purposes of Part II.1 of the *Environmental Protection Act*

AF/
c: District Manager, MOECC Ottawa
Water Supervisor, MOECC, Ottawa
M. Rick O'Connor, City Clerk, City of Ottawa
Luc Marineau, City of Ottawa
Jonathan Knoyle, City of Ottawa
Bob Dowdall, Novatech Engineers, Planners and Landscape Architects
Edson Donnelly, Novatech Engineers, Planners and Landscape Architects

APPENDIX B

WATER SUPPLY

Stantec

BARRHAVEN CONSERVANCY WEST: WATER DISTRIBUTION SYSTEM ANALYSIS
Final Report

January 13, 2023

Prepared for:
David Schaeffer Engineering Ltd.

Prepared by:
Stantec Consulting Ltd.

Project Number:
163401817

Revision	Description	Author	Date	Quality Check	Date	Independent Review	Date
0	Draft	AMG	20221219	AP	20221219	AP	20221219
1	Final	AMG	20230111	AP	20230113	AP	20230113

The conclusions in the Report titled **Barrhaven Conservancy West: Water Distribution System Analysis** are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from David Schaeffer Engineering Ltd. (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided to applicable authorities having jurisdiction and others for whom the Client is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

Prepared by: ______________________________
Signature

Alexandre Mineault-Guitard, M.Sc.A., ing., P.Eng.
Printed Name

Reviewed by: ______________________________
Signature

Ana Paerez, P.Eng.
Printed Name

Approved by: ______________________________
Signature

Ana Paerez, P.Eng.
Printed Name

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1 Introduction

To support David Schaeffer Engineering Ltd (DSEL) with their conceptual design submission for the Barrhaven Conservancy West development lands, Stantec Consulting Ltd. (Stantec) was requested to provide engineering services to complete a water distribution system analysis for this proposed development located within the City of Ottawa's (City) South Urban Community (SUC). The purpose of the analysis is to confirm associated watermain sizing and redundancy needs.

For this assignment, Stantec's scope of work included the following tasks:

1. Reviewing background information and establishing updated water demands for the Conservancy West development area based on the most current draft plan;
2. Preparing and submitting a boundary condition request to the City;
3. Updating the stand-alone hydraulic model, developed for the Conservancy East lands in a previous assignment (Stantec Consulting Ltd., 2022), to include the distribution system within the Conservancy West lands using boundary conditions provided by the City;
4. Assessing Fire Underwriters Survey (FUS) fire flow requirements;
5. Setting up and running model simulations for average day (AVDY), peak hour (PKHR), and maximum day (MXDY) plus fire flow demands to identify watermain sizing and redundancy needs required for the water distribution system within the development lands to meet design criteria; and,
6. Documenting the approach used, findings and recommendations from the analysis.

1.1 Study Area

The study area, referred to as the Barrhaven Conservancy development lands, is located in the City's southwestern suburban neighbourhood of Barrhaven. The lands are situated between Strandherd Dr to the north, the Jock River to the south, Fraser-Clark Drain to the east, and bisected by Borrisokane Rd through the western portion. The Conservancy West development lands will proceed once all phases within the East development lands have been built out. The distribution network within the Conservancy East lands was analyzed under a previous assignment (Stantec Consulting Ltd., 2022).

Based on the latest draft plan provided by DSEL (dated December 1, 2022), the proposed Conservancy West development will comprise a total of 462 single family home (SFH) units and 499 townhouse (MLT) units (consisting of a combination of back-to-back and standard townhouse units) for a total estimated population of 2,918 persons. More details on phasing and population estimates are provided in **Section 1.2**.

Based on a previously completed serviceability study for these lands (Stantec Consulting Ltd., 2021, Stantec Consulting Ltd., 2022), this residential community, which is currently situated adjacent to Pressure Zone 3SW (previously known as Zone BARR), is ultimately planned to be serviced by the future Zone SUC. In 2015, the City embarked on a large initiative to reconfigure the pressure zones servicing Barrhaven and the southern reaches of Ottawa (i.e., SUC).

The latest information provided by the City indicates that the pressure zone reconfiguration is planned to be completed by mid 2025.The purpose of the zone reconfiguration is to improve reliability and efficiencies, and to provide increased pumping capacity for future growth. As such, these development lands are to be serviced by two existing connections to the existing distribution network, both of which are currently part of Zone 3SW and will ultimately be part of Zone SUC, as well as a future connection located south of the Jock River. The connections include the following locations as shown in **Figure 1-1**:

1. The existing 305 mm stub extending from Chapman Mills Dr (east of Kennedy-Burnett Pond);
2. The T-junction on the existing 203 mm watermain at Danson Gardens Grv and Darjeeling Ave; and
3. A future 305 mm stub at the intersection of Flagstaff Drive and Borrisokane Road, which requires crossing the Jock River.

Previous studies analyzed the serviceability of the Barrhaven Conservancy Lands via the two (2) existing connections only, as well as with all three (3) connections. This study will only consider the three (3) connections, as it is the City's preferred option.

As previously mentioned, the development area will ultimately be serviced by the pressure Zone SUC once the reconfiguration is complete (planned by mid 2025). As such, the analysis and proposed watermain sizing and layout documented in this report only considers the Zone SUC servicing conditions.

1.2 Phasing Of Barrhaven Conservancy

For the purpose of this assessment, development within the Barrhaven Conservancy lands, as shown in **Figure 1-2**, is assumed to occur in the following phasing order:

1. Conservancy East lands – Comprising 782 SFH units, 606 MTL units, and three (3) parks for a total estimated population of 4,295 persons.
2. Conservancy West lands – Comprising 462 SFH units, 499 MTL units, and three (3) parks for a total estimated population of 2,918 persons.

Several subphases are planned for both the East and West lands, however only the ultimate buildout conditions of both phases (i.e., the buildout conditions of the Barrhaven Conservancy lands) will be analyzed herein. **Figure 1-2** also shows the proposed building types throughout the Conservancy lands.

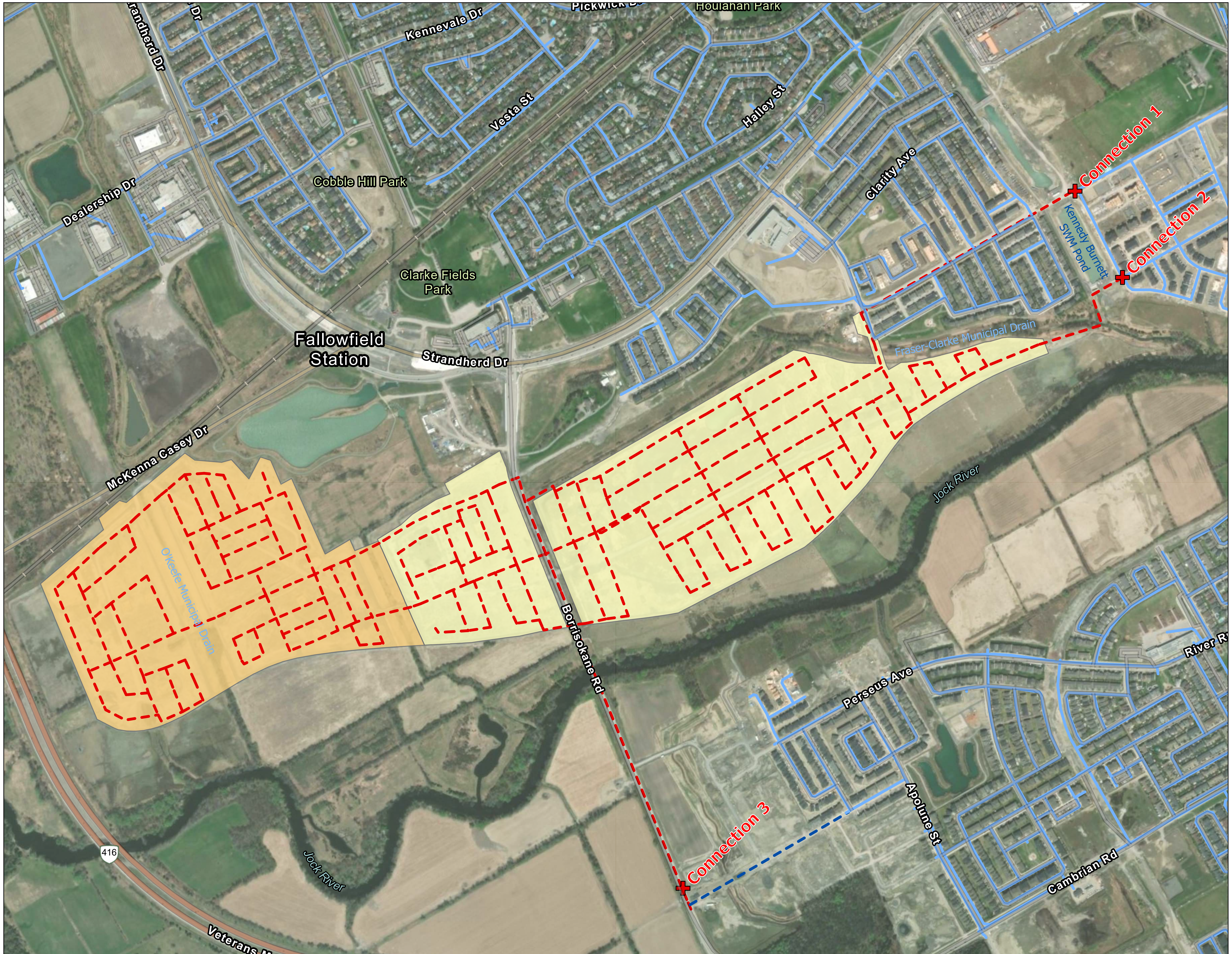


Figure No.

1-1

Title

Connections to Existing Water Distribution Network

Client/Project

David Schaeffer Engineering Ltd
Barrhaven Conservancy West: Water Distribution System Analysis

Project Location

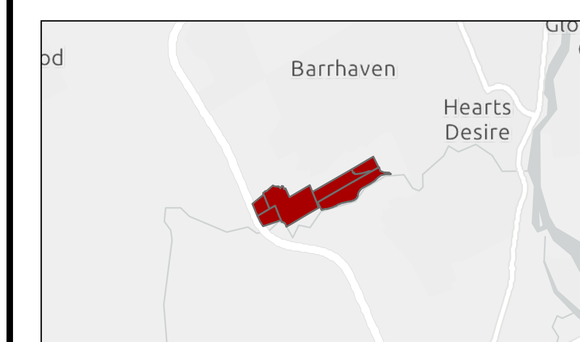
Ottawa, Ontario, Canada

N

0 150 300 Meters
(At original document size of 11x17)
1:10,000

Legend

- Barrhaven Conservancy West
- Barrhaven Conservancy East
- Existing Distribution Watermain
- Connection Location
- Future Distribution Watermain
- Future Watermain to Service Barrhaven Conservancy Lands



Notes

1. Coordinate System: NAD 1983 CSRS MTM 9
2. Background: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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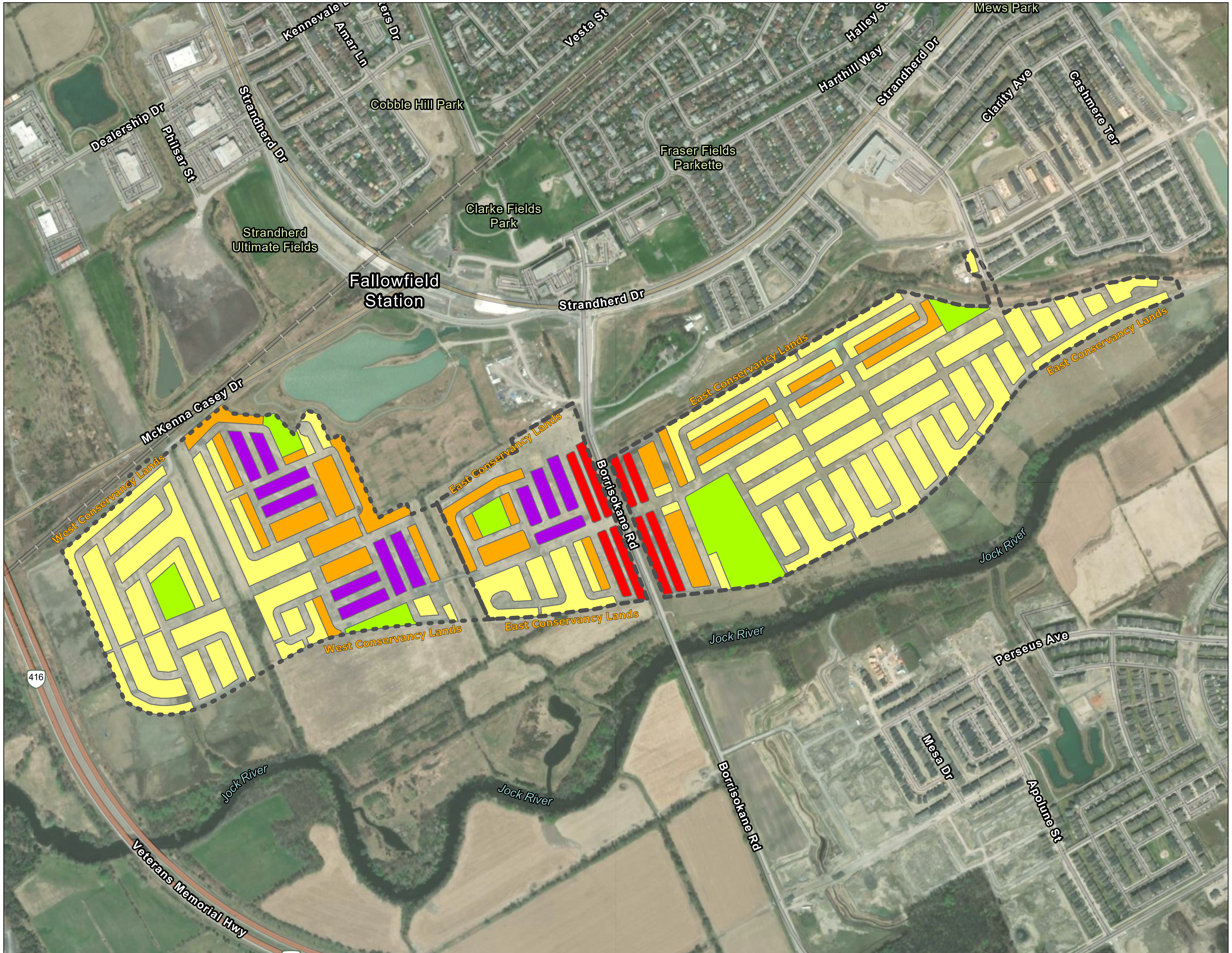


Figure No.

1-2

Title

Phasing Plan of Barrhaven Conservancy Lands

Client/Project

David Schaeffer Engineering Ltd
Barrhaven Conservancy West: Water Distribution System Analysis

Project Location

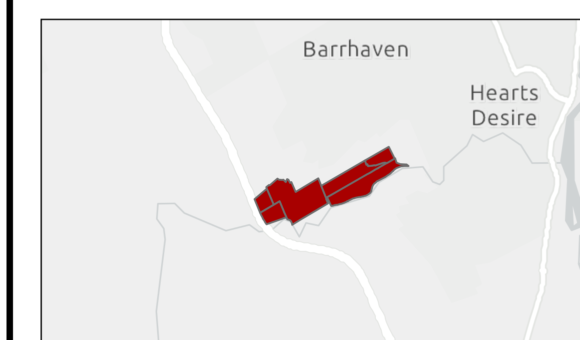
Ottawa, Ontario, Canada

N

0 150 300 Meters
(At original document size of 11x17)
1:9,000

Legend

- Development Phase Boundary
- Single Family Home (SFH)
- Standard Townhouse (STND TH)
- Rear-Lane Townhouse (RLTH)
- Back-to-Back Townhouse (B2B)
- Park



Notes

1. Coordinate System: NAD 1983 CSRS MTM 9
2. Background: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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2 Hydraulic Assessment

The City of Ottawa Water Design Guidelines (City of Ottawa, 2010) and criteria outlined in the 2013 Water Master Plan (WMP) were used to establish water demands, level of service and pressure objectives during normal and emergency conditions. As per the City's design guidelines and Technical Bulletin ISTB-2021-03, since this is a new development involving the design of new watermains, the design shall consider a required fire flow established using the calculation method published by the Fire Underwriters Survey (FUS).

2.1 Serviceability

2.1.1 SYSTEM PRESSURES

As per the City's Water Design Guidelines, the desired range of pressure under average day (AVDY), maximum day (MXDY) and peak hour (PKHR) demands is 345 to 552 kPa (50 to 80 psi) and no less than 276 kPa (40 psi) at ground elevation (i.e., at street level). The maximum pressure at any point in the water distribution system should not exceed 552 kPa (80 psi). Pressure reducing measures are required to service areas where pressures greater than 552 kPa (80 psi) are anticipated.

Under emergency fire conditions, the system must be able to supply appropriate fire flow while maintaining a residual pressure of 138 kPa (20 psi).

Figure 2-1 shows the elevations of each model junction within the Conservancy West lands. Proposed grades range from 92.5 m to 93.8 m, based on the grading plan provided by DSEL. Elevations in the Conservancy East lands range from 92.4 m to 93.5 m.

2.1.2 FIRE FLOWS

The City requires a fire flow assessment to be completed to demonstrate that local watermains can provide the objective fire flows. However, information regarding unit sizes and unit separation is not available at this time and as such, FUS calculations have not been completed.

As a result, the required fire flow for the governing unit design established for the Conservancy East lands (Stantec Consulting Ltd., 2022) of 13,000 L/min will be used for this analysis to ensure that the local watermains can provide this minimum fire flow at a residual pressure of 20 psi.

It is recommended that FUS calculations for the Conservancy West lands be reviewed at the detailed design stage to ensure that fire flow requirements are met across the site.

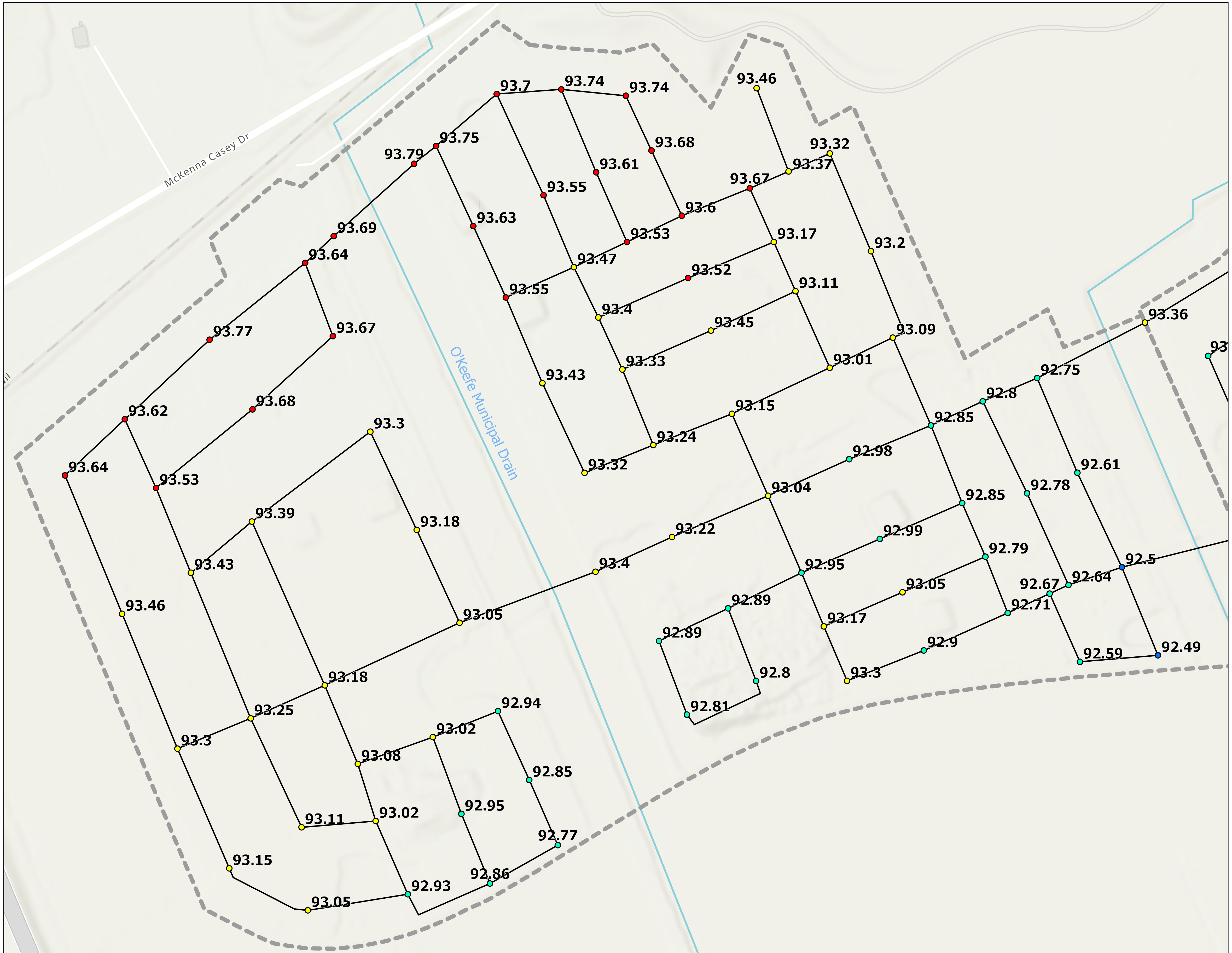


Figure No.
2-1

Title
Junction Elevation

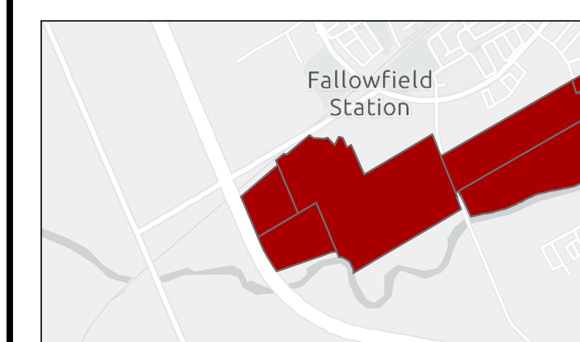
Client/Project
David Schaeffer Engineering Ltd
Barrhaven Conservancy West: Water Distribution System Analysis

Project Location
Ottawa, Ontario, Canada

N

0 50 100 Meters
(At original document size of 11x17)
1:3,000

Legend
Development Phase Boundary
Future Watermain to Service Barrhaven Conservancy Lands
Ground Elevation (m)
<92.5
92.5 - 93.0
93.0 - 93.5
93.5 - 94



Notes
1. Coordinate System: NAD 1983 CSRS MTM 9
2. Background: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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2.2 Growth Projections

The estimated residential population for Barrhaven Conservancy lands was estimated based on projected household sizes as per population densities (or persons per unit, PPU) specified in the City's Water Design Guidelines.

Table 2-1 shows the estimated number of units per phase of these development lands and the projected populations based on the distribution of residential types. The total number of units across the entire Barrhaven Conservancy lands is estimated to be 2,349 with a residential population of 7,213 persons.

Table 2-1: Estimated Unit Counts and Populations for Barrhaven Conservancy Lands

Phase	Unit Types	Units	PPU	Population
East	Singles	782	3.4	2,659
	Towns	606	2.7	1,636
	East Phase Sub-total	*1,388*	-	*4,295*
West	Singles	462	3.4	1,571
	Towns	499	2.7	1,347
	West Phase Sub-total	*961*	-	*2,918*
	Total	***2,349***		***7,213***

2.3 Demand Projections

As part of the 2022 Study (Stantec Consulting Ltd.) that analyzed the serviceability of the Conservancy East lands, the City requested that the criteria outlined in the City's Water Design Guidelines and Technical Bulletin ISTB-2021-03 were followed to establish water demands. This was considered a conservative approach, as the criteria in the City's Water Design Guidelines are more restrictive in comparison to the ones outlined in the 2013 City's Water Master Plan (WMP).

As such, the demand rates and peaking factors from the Water Design Guidelines and Technical Bulletin ISTB-2021-03 were applied to the population projections presented in **Table 2-2** based on land-use. For residential land-use, SFH and MLT units were assigned an average day (AVDY) consumption rate of 280 L/cap/d. To determine maximum day (MXDY) demands, the AVDY demands were multiplied by a residential peaking factor of 2.5. Peak hour (PKHR) demands were established by multiplying MXDY demands by a residential peaking factor of 2.2. Estimated AVDY, MXDY and PKHR demand projections are summarized in **Table 2-2**.

Table 2-2: Estimated Demand Projections for Barrhaven Conservancy Lands

Phase	Units	Population	AVDY (L/s)	MXDY (L/s)	PKHR (L/s)
East	1,388	4,295	13.92	34.80	76.55
West	961	2,918	9.46	23.64	52.01
Total	***2,349***	***7,213***	***23.38***	***58.44***	***128.57***

2.4 Model Development

Innovyze's InfoWater Pro (Version 3.5, Update #1) was used as a hydraulic modelling platform for the water distribution system analysis of the proposed West Conservancy development lands, and includes the previously assessed East Conservancy lands (Stantec Consulting Ltd., 2022). The model was developed to reflect the most current draft plan for the West Conservancy lands, including the proposed watermain layout (based on proposed road alignment) and water demands.

Watermains added to the model were assigned Hazen-Williams coefficients ("C-Factors") in accordance with the City's Water Design Guidelines. These factors are listed in **Table 2-3.**

Table 2-3: Hazen-Williams Coefficients by Watermain Size

Watermain Diameter (mm)	Coefficient
152	100
203 - 305	110
350 - 600	120
> 600	130

2.4.1 BOUNDARY CONDITIONS

The proposed development has three (3) connection points to the existing water distribution system. The boundary conditions provided by the City include hydraulic gradeline (HGL) values for Zone SUC servicing conditions. Values are provided in **Appendix A** and summarized in **Table 2-4**, and have been simulated in the hydraulic model using fixed head reservoirs to which HGLs have been applied for the respective demand scenarios.

Note that minor changes were made to the conceptual plans following the request for boundary conditions. Those changes include a net increase of 34 units (37 additional SFH units, 3 less MTL units), which have a minimal impact on residential water demands (+0.39 L/s for AVDY, and +2.10 L/s for PKHR). As such, boundary conditions listed in **Table 2-4** were used for this study, and updated boundary conditions will be requested from the City for a subsequent submission.

Table 2-4: HGL Boundary Conditions

HGL (m) Zone SUC Servicing Conditions			
Demand Scenario	Three Connections		
	Connection 1 (1)	Connection 2 (2)	Connection 3 (3)
AVDY	146.7	146.7	146.6
PKHR	141.4	141.3	141.0
AVDY +FF (4)	139.7	138.1	139.8
MXDY+FF (4)	137.9	136.2	137.9

Notes
(1) Ground elevation @ Connection 1 (Chapman Mills Dr) = 93.1 m.
(2) Ground elevation @ Connection 2 (Danson Gardens Grv / Darjeeling Ave) = 91.8 m.
(3) Ground elevation @ Connection 3 (Flagstaff Dr) = 92.3 m.
(4) FF of 13,000 L/min or 216.67 L/s.

2.4.2 PROPOSED WATERMAIN SIZING & LAYOUT

The layout and sizing of the watermains within the proposed development (both East and West) is shown in **Figure 2-2**. Within the Conservancy West lands, the network is proposed to consist of 152 mm, 203 mm, 254 mm, and 305 mm, with the 305 mm watermains acting as the hydraulic backbone throughout the development lands. The 305 mm backbone watermains connect at two (2) locations to the watermains within Conservancy East lands and extend west crossing the O'Keefe municipal drain at two (2) locations. Note that **Figure 2-2** is a schematic representation of the hydraulic model layout. The specific configuration of dead-end watermains, among other infrastructure, are not presented in the figure.

The proposed watermain layout contains two (2) dead-end watermains in the Conservancy West lands (noted on **Figure 2-2)**. This includes a dead-end watermain along the cul-de-sac, as well as another single looped watermain east of the O'Keefe municipal drain.

As per the City of Ottawa Water Distribution Design Guidelines, dead ends should be avoided as much as possible to limit potential water quality issues. Where dead-end watermains cannot be avoided, the guidelines specify a maximum watermain size of 150 mm, unless a larger size is needed for supply reasons. Dead-end #1 is proposed to be serviced by a 203 mm diameter watermain, whereas dead-end #2 is proposed to be serviced by a combination of 203 and 254 mm diameter watermains. These pipe sizes are recommended to meet demands under fire flow conditions. The configuration of the dead-end watermains will be as per de City's standard details and will be reviewed at the detailed design stage.

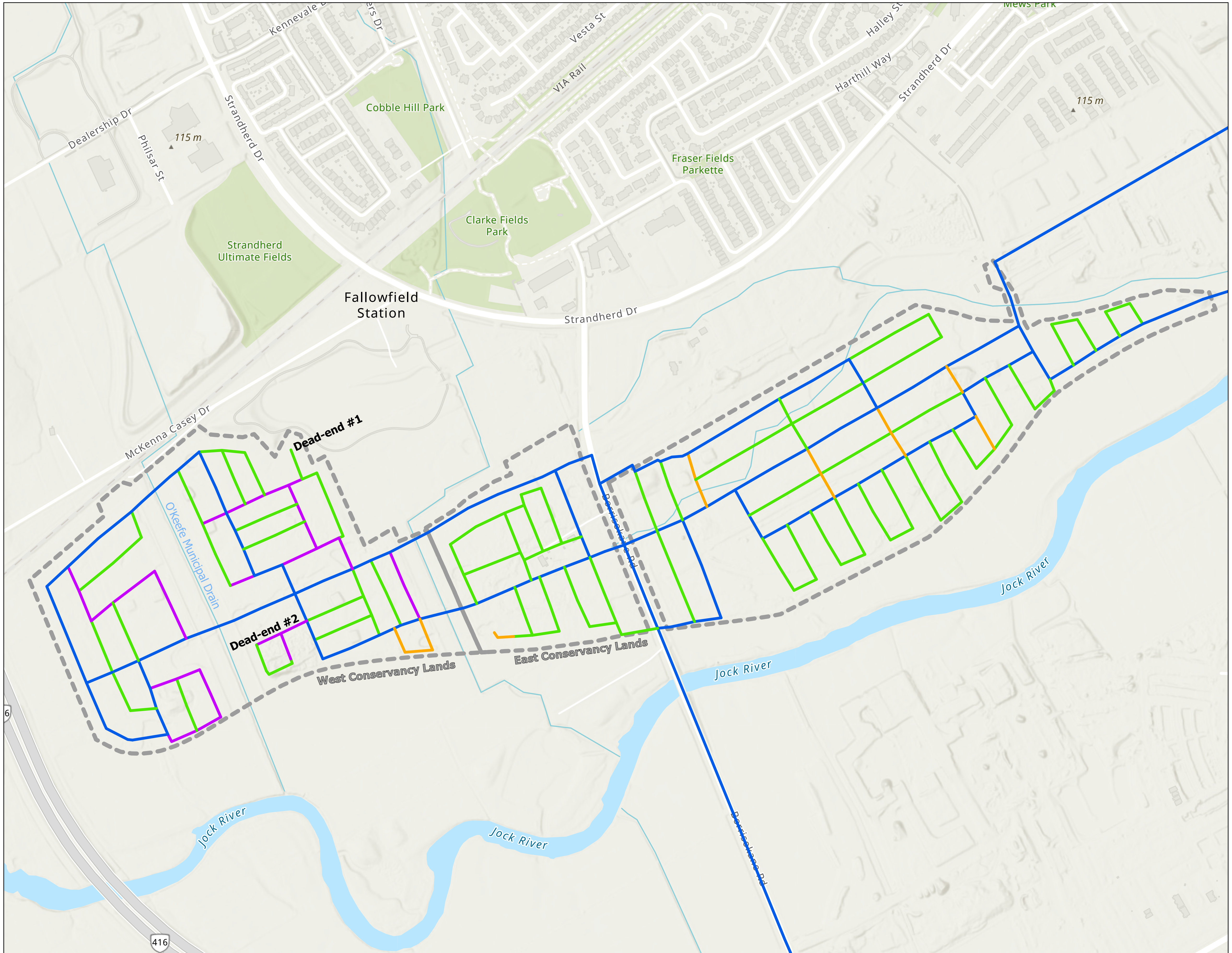
Furthermore, the maximum number of units along a dead-end watermain should not exceed 49 to avoid the creation of a vulnerable service area. Based on the latest concept plans, each dead-end watermain within the Conservancy West lands services fewer than 49 single-family units.

Figure No.
2-2

Title
Proposed Watermain Sizing & Layout

Client/Project
David Schaeffer Engineering Ltd
Barrhaven Conservancy West: Water Distribution System Analysis

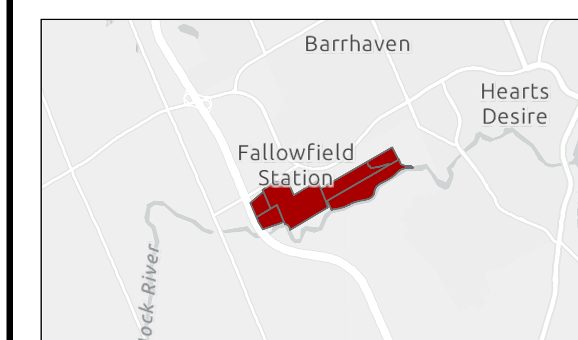
Project Location
Ottawa, Ontario, Canada



N

0 150 300 Meters
(At original document size of 11x17)
1:8,500

Legend
Development Phase Boundary
Proposed Watermain Diameter (mm)
152
203
254
305



Notes
1. Coordinate System: NAD 1983 CSRS MTM 9
2. Background: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Stantec

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3 Hydraulic Modelling Results

Hydraulic modelling was completed for ultimate buildout conditions of the development lands, under SUC servicing conditions, to verify how the network would respond. The following subsections present the modelling results under AVDY, PKHR, and under emergency MXDY fire flow conditions. Furthermore, a reliability analysis was performed to assess the network's performance under emergency AVDY fire flow conditions in the event of a watermain break at key points within the proposed network. **Figure B-1** (**Appendix B**) provides the model system map, while detailed modelling results for all scenarios are provided in **Appendix C.**

3.1 Average Day & Peak Hour Demands

Under AVDY demands, maximum modelled pressures under buildout conditions are 78 psi. These maximum pressures are less than the City's maximum pressure objective of 80 psi.

Under PKHR demands, minimum modelled pressures under buildout conditions are 64 psi. These pressures fall within the desired pressure range of 50 to 80 psi and are thus considered acceptable.

3.2 Maximum Day Plus Fire Flow

Available fire flows across the proposed development lands must meet or exceed the RFF of 13,000 L/min (216.7 L/s) as described in **Section 2.1.2**.

Under full buildout maximum day + fire flow (MXDY+FF) conditions, model results show that fire flows greater than 13,000 L/min are achievable, with a residual pressure of 138 kPa (20 psi), in most locations within the Conservancy West lands. However, there are a few locations outlined in Table C-3 of **Appendix C** (nodes J363, J365 and J369), where the residual pressures during fire flow conditions are below 138 kPa (20 psi). The worst-case scenario occurs at node J365 where a maximum fire flow of 10,502 L/min is available at a residual pressure of 138 kPa (20 psi).

Fire flow requirements across the Conservancy West lands are to be confirmed at the detailed design stage and fire control measures are to be included as required. These fire control measures may include adding ordinary construction units, the addition of firewalls and/or using the alternative hydrant placing procedure outlined in Appendix I of ISDTB-2018-02 to avoid oversizing local pipes.

These results show that the proposed watermain sizing and layout along with fire control measures at a few locations will meet serviceability requirements.

3.3 Reliability Analysis

As per the City of Ottawa Design Guidelines, the system must be able to provide average day demand plus fire flow (AVDY+FF) while meeting serviceability requirements during a major failure (i.e., watermain break). To assess reliability and resiliency against major failures, a number of reliability scenarios were completed to confirm sufficient pressure and flow can be achieved during a major failure. These scenarios included the following and are shown in **Figure 3-1** :

1. **Break Scenario 1 –** Break in the backbone watermain from Connection 1;
2. **Break Scenario 2 –** Break in the backbone watermain from Connection 2;
3. **Break Scenario 3 –** Break in the backbone watermain from Connection 3 (crossing the Jock River);
4. **Break Scenario 4 –** Break along the southern east-west backbone watermain connecting to Conservancy East lands;
5. **Break Scenario 5 –** Break along the northern east-west backbone watermain connecting to Conservancy East lands;
6. **Break Scenario 6 –** Break in the south backbone watermain crossing O'Keefe municipal drain; and,
7. **Break Scenario 7** – Break in the north backbone watermain crossing O'Keefe municipal drain.

Under Break Scenario 1, all junctions meet the 13,000 L/min required fire flows, with the exception of nodes J363, J365 and J369, which can provide a minimum of 10,715 L/min. Fire flow requirements and fire flow measures are to be confirmed at the detailed design stage.

Under Break Scenario 2, all junctions meet the 13,000 L/min required fire flows, with the exception of nodes J363, J365 and J369, which can provide a minimum of 10,836 L/min. Fire flow requirements and fire flow measures are to be confirmed at the detailed design stage.

Under Break Scenario 3, all junctions meet the 13,000 L/min required fire flows, with the exception of nodes J239, J309, J313, J355, J363, J365 and J369, which can provide a minimum of 10,115 L/min. Fire flow requirements and fire flow measures are to be confirmed at the detailed design stage.

Under Break Scenario 4, all junctions meet the 13,000 L/min required fire flows, with the exception of nodes J237, J239, J241, J259, J261, J271, J285, J289, J297, J301, J309, J313, J329, J343, J345, J347, J349, J351, J353, J355, J363, J365 and J369, which can provide a minimum of 9,679 L/min. Fire flow requirements and fire flow measures are to be confirmed at the detailed design stage.

Under Break Scenario 5, all junctions meet the 13,000 L/min required fire flows, with the exception of nodes J363, J365 and J369, which can provide a minimum of 10,552 L/min. Fire flow requirements and fire flow measures are to be confirmed at the detailed design stage.

Under Break Scenario 6, all junctions meet the 13,000 L/min required fire flows, with the exception of nodes J313, J329, J331, J343, J345, J347, J349, J351, J353, J355, J363, J365 and J369, which can provide a minimum of 11,449 L/min. Fire flow requirements and fire flow measures are to be confirmed at the detailed design stage.

Under Break Scenario 7, all junctions meet the 13,000 L/min required fire flows, with the exception of nodes J305, J309, J313, J363, J365 and J369, which can provide a minimum of 11,448 L/min. Fire flow requirements and fire flow measures are to be confirmed at the detailed design stage.

At the detailed design stage, fire flow requirements across the site are to be confirmed and the required fire flow measures to meet City criteria under all watermain break scenarios are to be determined. These fire control measures may include adding ordinary construction units, the addition of firewalls and/or using the alternative hydrant placing procedure outlined in Appendix I of ISDTB-2018-02 to avoid oversizing local pipes.

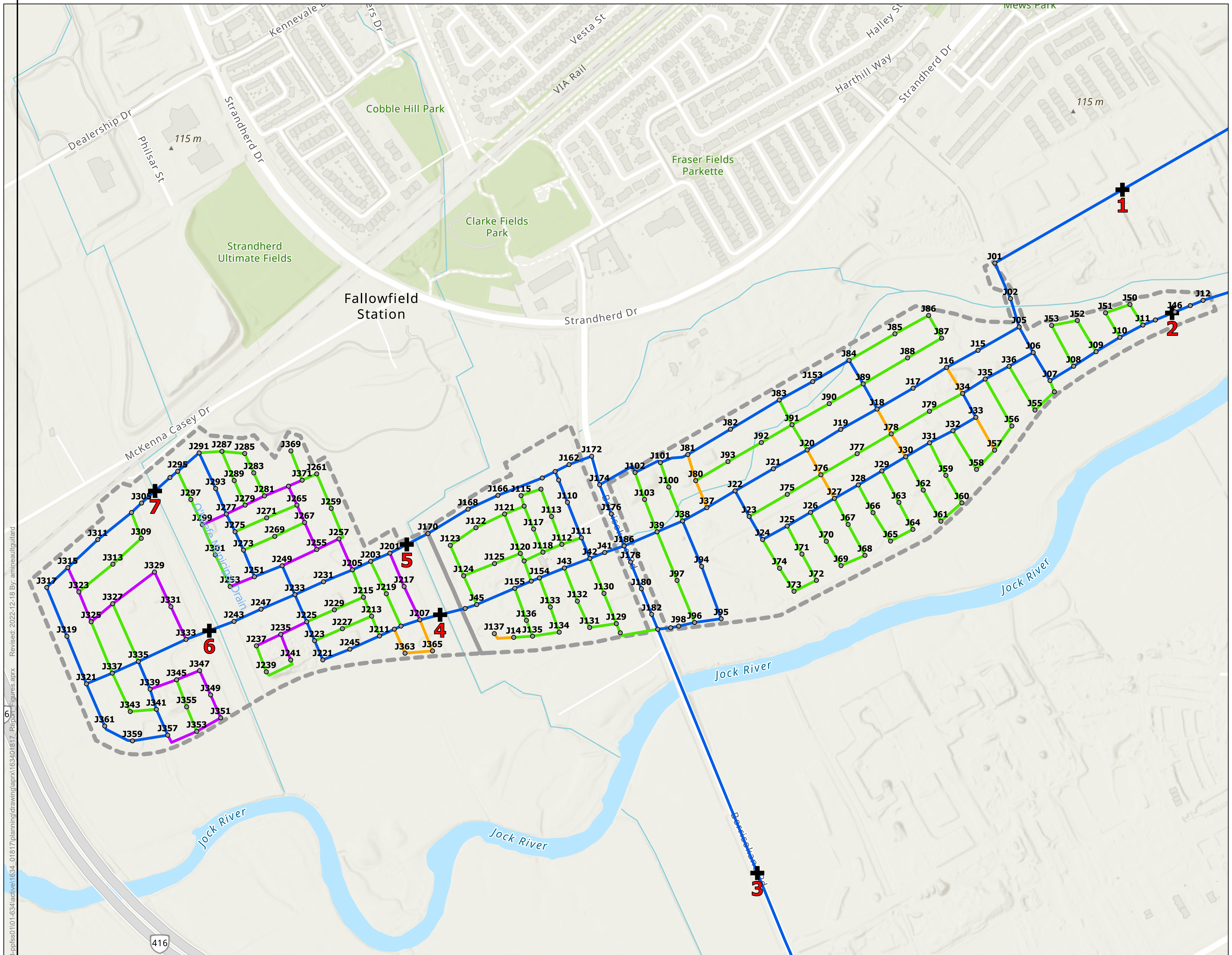


Figure No.

3-1

Title

Reliability Analysis Watermain Break Locations

Client/Project

David Schaeffer Engineering Ltd

Barrhaven Conservancy West: Water Distribution System Analysis

Project Location

Ottawa, Ontario, Canada

N

0 150 300 Meters

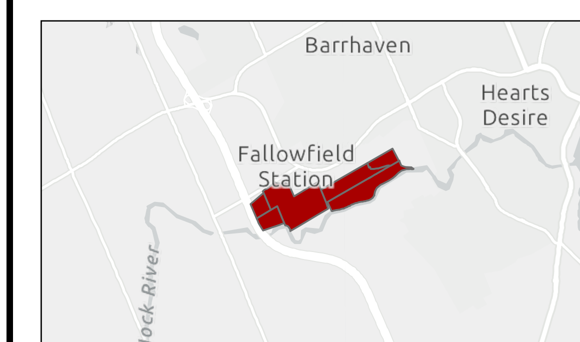
(At original document size of 11x17)
1:8,500

Legend

- Development Phase Boundary
- Model Node
- Watermain Break Location/Scenario

Proposed Watermain Diameter (mm)

- 152
- 203
- 254
- 305



Notes

1. Coordinate System: NAD 1983 CSRS MTM 9
2. Background: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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4 Conclusion and Recommendations

A water distribution system hydraulic analysis was completed for the Barrhaven Conservancy West development lands. The purpose of this analysis was to confirm associated watermain sizing and redundancy needs. Based on the hydraulic analysis, the following conclusions and recommendations were made:

- Based on the most current site plan layout, the estimated AVDY, MXDY and PKHR demand projections for the Conservancy West lands are 9.46 L/s, 23.64 L/s, and 52.01 L/s, respectively. With the Conservancy East lands, the total estimated AVDY, MXDY and PKHR demands for the entire development are 23.38 L/s, 58.44 L/s, and 128.57 L/s, respectively.
- Information regarding proposed unit sizes and unit spacing is not available at this time and as such, FUS calculations have not been completed. The previously fire flow objective of 13,000 L/min as established in the analysis of the Conservancy East lands (Stantec Consulting Ltd., 2022) was used for this analysis. It is recommended that the FUS calculations be reviewed during the detailed design stage to ensure that fire flow requirements are met across the site.
- Previous studies related to the Conservancy lands analyzed the serviceability of the development via two (2) and three (3) connections scenarios. This study only considered the scenario with three (3) connections. Furthermore, the analysis in this report considers the future zone SUC servicing conditions only.
- Within the Conservancy West lands, the network is proposed to consist of 152 mm, 203 mm, 254 mm, and 305 mm. The 305 mm backbone watermains connect at two (2) different locations to the Conservancy East lands network and extend west crossing the O'Keefe municipal drain at two (2) locations.
- The maximum number of units along a dead-end watermain should not exceed 49 to avoid the creation of a vulnerable service area. Based on the latest concept plans, each dead-end watermain within the Conservancy West lands services fewer than 49 single-family units.
- Under AVDY demand conditions, model results suggest that maximum pressures are below the allowable maximum pressure of 80 psi in accordance with the City of Ottawa Design Guidelines. Under PKHR demand conditions, the minimum pressures are in accordance with the City's system pressure requirements.
- Under MXDY+FF demand conditions, the assumed required fire flow of 13,000 L/min can be achieved across most of the proposed network at full build out conditions, with the exception of a few locations, where the worst-case scenario results in a maximum fire flow of 10,502 L/min available at a residual pressure of 138 kPa (20 psi). Fire flow requirements across the Conservancy West lands are to be confirmed at the detailed design stage and fire control measures are to be included as required. These fire control measures may include adding ordinary construction units, the addition of firewalls and/or using the alternative hydrant placing procedure outlined in Appendix I of ISDTB-2018-02 to avoid oversizing local pipes.

- To assess reliability and resiliency against major failures, a number of reliability scenarios were completed under AVDY+FF demand conditions to confirm sufficient pressure and flow can be achieved during a major failure. Under all break scenarios, some locations are slightly below the RFF of 13,000 L/min. At the detailed design stage, fire flow requirements across the site are to be confirmed and the required fire flow measures to meet City criteria under all watermain break scenarios are to be determined.

5 References

City of Ottawa. (2010). Ottawa Design Guidelines - Water Distribution. Ottawa.

City of Ottawa. (2018). Technical Bulletin ISTB-2018-02. Ottawa.

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Stantec Consulting Ltd. (2013). City of Ottawa 2013 Water Master Plan. Ottawa.

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Stantec Consulting Ltd. (2022). Barrhaven Conservancy East (Phases 2, 3, 4 & Jock River): Water Distribution System Analysis. Ottawa.

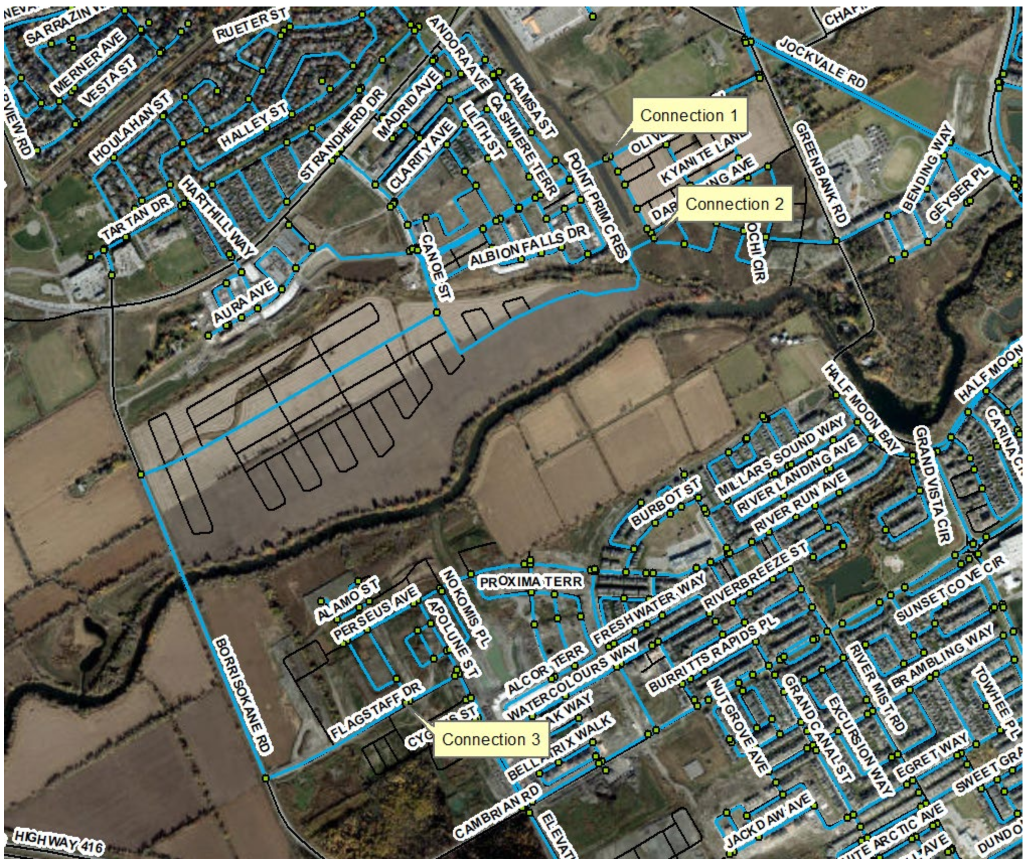
Appendix A Boundary Conditions

Boundary Conditions
Barrhaven Conservancy West

Provided Information

Scenario	Demand	
	L/min	L/s
Average Daily Demand	1,379	22.99
Maximum Daily Demand	3,449	57.49
Peak Hour	7,588	126.47
Fire Flow Demand #1	13,000	216.67

Location



Results – SUC Zone Reconfiguration

Connection 1 – Chapman Mills Dr.

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	146.7	76.2
Peak Hour	141.4	68.7
Basic Day plus Fire 1	139.7	66.3
Max Day plus Fire 1	137.9	63.7

Ground Elevation = 93.1 m

Connection 2 – Danson Gardens Grove / Darjeeling Ave.

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	146.7	78.0
Peak Hour	141.3	70.4
Basic Day plus Fire 1	138.1	65.9
Max Day plus Fire 1	136.2	63.2

Ground Elevation = 91.8 m

Connection 3 – Langstaff Dr. / Borrisokane Rd.

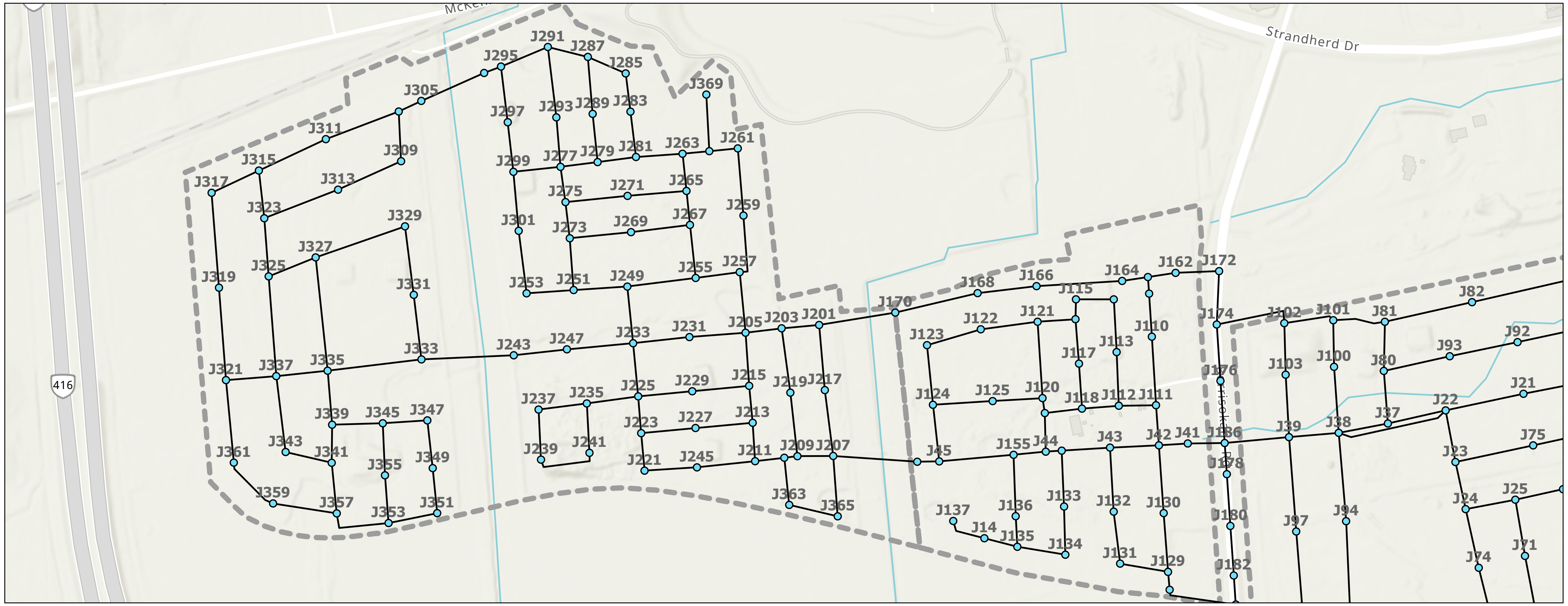
Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	146.6	77.2
Peak Hour	141.0	69.3
Basic Day plus Fire 1	139.8	67.5
Max Day plus Fire 1	137.9	64.8

Ground Elevation = 92.3 m

Disclaimer

The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account.

Appendix B Junction IDS



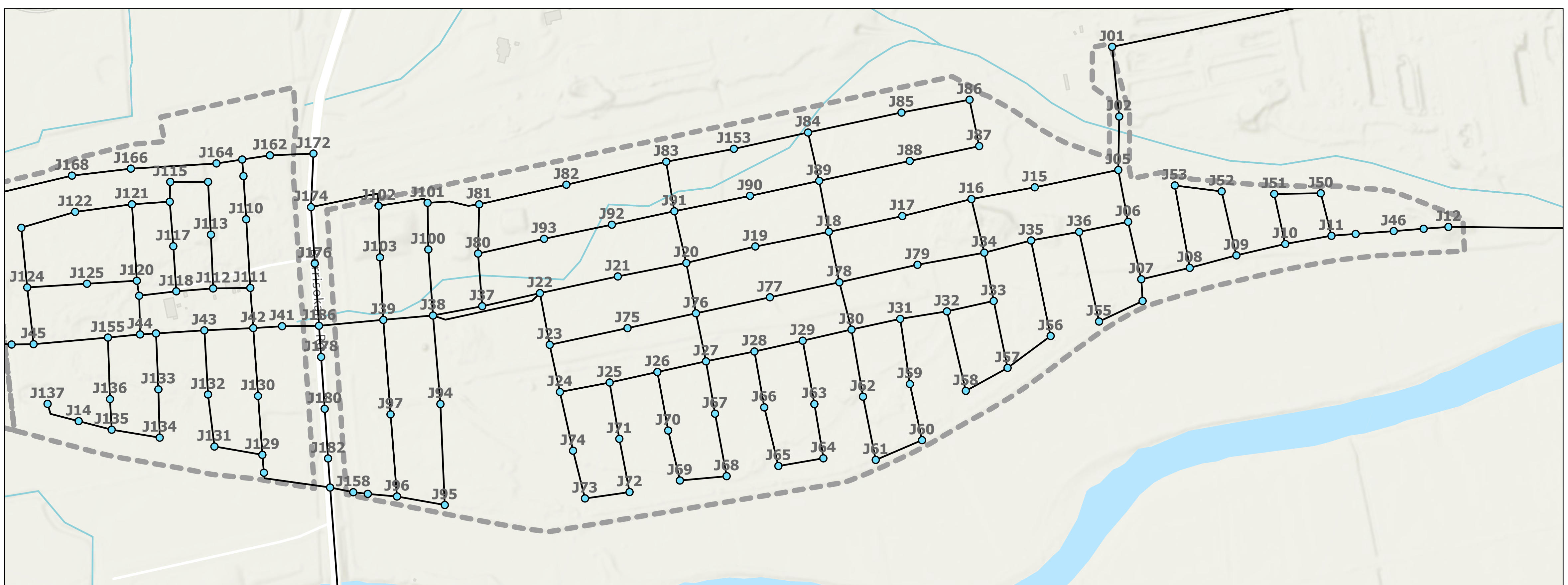


Figure No.
B-1

Title
Model System Map

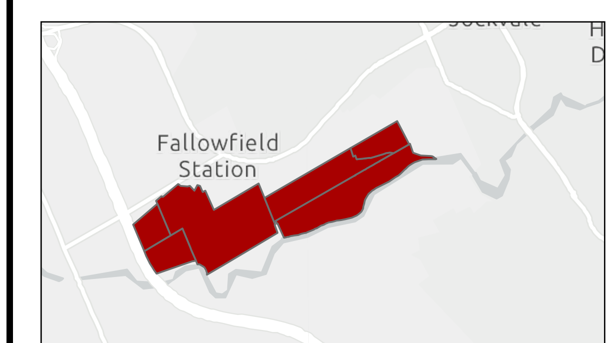
Client/Project
David Schaeffer Engineering Ltd
Barrhaven Conservancy West: Water Distribution System Analysis

Project Location
Ottawa, Ontario, Canada

N

0 100 200 Meters
(At original document size of 11x17)
1:6,000

Legend
- Development Phase Boundary
- Future Watermain
- Model Node



Notes
1. Coordinate System: NAD 1983 CSRS MTM 9
2. Background: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Appendix C Model Results

163401817 - Barrhaven Conservancy West: Water Distribution System Analysis

Table C-1: Model Results - AVDY

Junction ID	Demand (L/s)	Head (m)	Pressure (psi)
Maximum	*0.15*	*146.66*	*77.54*
Minimum	*0.00*	*146.55*	*75.01*
J01	0.07	146.64	75.54
J02	0.00	146.63	76.14
J05	0.07	146.63	76.63
J06	0.07	146.63	76.78
J07	0.11	146.63	76.94
J08	0.11	146.64	76.82
J09	0.11	146.64	76.31
J10	0.11	146.64	76.57
J100	0.15	146.59	75.96
J101	0.15	146.59	76.11
J102	0.15	146.58	75.99
J103	0.15	146.59	75.84
J109	0.11	146.57	76.10
J11	0.11	146.65	76.46
J110	0.11	146.57	76.27
J111	0.11	146.57	76.34
J112	0.11	146.57	76.23
J113	0.11	146.57	76.15
J114	0.11	146.57	76.01
J115	0.11	146.56	75.98
J116	0.11	146.56	76.02
J117	0.11	146.56	76.15
J118	0.11	146.57	76.23
J119	0.11	146.56	76.36
J12	0.11	146.66	76.34
J120	0.11	146.56	76.36
J121	0.11	146.56	76.16
J122	0.11	146.56	76.00
J123	0.11	146.56	76.15
J124	0.11	146.56	76.29
J125	0.11	146.56	76.47
J128	0.00	146.57	76.83
J129	0.11	146.57	76.81
J130	0.11	146.57	76.59
J131	0.11	146.57	76.71
J132	0.11	146.57	76.55
J133	0.11	146.56	76.63
J134	0.11	146.56	76.76
J135	0.11	146.56	76.86
J136	0.11	146.56	76.73
J137	0.11	146.56	76.64
J14	0.11	146.56	76.77
J15	0.07	146.62	76.48
J152	0.11	146.63	76.98
J153	0.15	146.60	75.94
J154	0.11	146.57	76.49
J155	0.11	146.56	76.60
J156	0.00	146.56	76.36
J158	0.00	146.58	76.88
J16	0.07	146.61	76.63
J162	0.00	146.57	75.98
J164	0.00	146.57	76.05
J166	0.00	146.57	75.86
J168	0.00	146.56	76.15
J17	0.07	146.61	76.45
J170	0.00	146.56	75.63
J172	0.00	146.57	75.99
J174	0.15	146.58	76.16
J176	0.15	146.57	76.27
J178	0.08	146.57	76.49
J18	0.07	146.60	76.23
J180	0.08	146.58	76.70
J182	0.08	146.58	76.82
J184	0.08	146.58	76.88
J186	0.08	146.57	76.39
J188	0.00	146.57	76.02
J19	0.10	146.60	76.01
J20	0.10	146.60	76.48
J201	0.11	146.56	76.49
J203	0.11	146.56	76.42
J205	0.11	146.56	76.35
J207	0.11	146.56	76.85
J209	0.11	146.56	76.65
J21	0.10	146.60	76.32
J211	0.11	146.56	76.55
J213	0.11	146.56	76.43
J215	0.11	146.56	76.35
J217	0.11	146.56	76.69
J219	0.11	146.56	76.45
J22	0.10	146.60	76.38
J221	0.11	146.56	75.71
J223	0.11	146.56	75.89
J225	0.11	146.56	76.20
J227	0.11	146.56	76.06
J229	0.11	146.56	77.54
J23	0.10	146.60	76.51
J231	0.11	146.56	76.16
J233	0.11	146.55	76.08
J235	0.11	146.56	76.29
J237	0.11	146.56	76.29
J239	0.11	146.56	76.40
J24	0.10	146.60	76.64
J241	0.11	146.56	76.42
J243	0.11	146.55	75.56
J245	0.11	146.56	76.28
J247	0.11	146.55	75.82
J249	0.11	146.55	75.92
J25	0.10	146.60	76.52
J251	0.11	146.55	75.79
J253	0.11	146.55	75.68
J255	0.11	146.55	76.12
J257	0.11	146.55	76.00
J259	0.11	146.55	75.85
J26	0.10	146.60	76.62
J261	0.11	146.55	75.68
J263	0.11	146.55	75.18
J265	0.11	146.55	75.89
J267	0.11	146.55	75.98
J269	0.11	146.55	75.49
J27	0.10	146.60	76.75
J271	0.11	146.55	75.39
J273	0.11	146.55	75.66
J275	0.11	146.55	75.56
J277	0.11	146.55	75.46
J279	0.11	146.55	75.38
J28	0.10	146.60	76.68
J281	0.11	146.55	75.28
J283	0.11	146.55	77.21
J285	0.11	146.55	75.08
J287	0.11	146.55	75.08
J289	0.11	146.55	75.26
J29	0.10	146.60	76.69
J291	0.11	146.55	75.14
J293	0.11	146.55	75.35
J295	0.11	146.55	75.06
J297	0.11	146.55	75.24
J299	0.11	146.55	75.35
J30	0.07	146.61	76.62
J301	0.11	146.55	75.52
J303	0.00	146.55	75.01
J305	0.00	146.55	75.15
J307	0.11	146.55	75.22
J309	0.11	146.55	75.18
J31	0.07	146.61	76.75
J311	0.11	146.55	75.04
J313	0.11	146.55	75.16
J315	0.11	146.55	75.25
J317	0.11	146.55	75.22
J319	0.11	146.55	75.48
J32	0.07	146.61	76.65
J321	0.11	146.55	75.70
J323	0.11	146.55	75.38
J325	0.11	146.55	75.52
J327	0.11	146.55	75.58
J329	0.11	146.55	75.70
J33	0.07	146.61	76.88
J331	0.11	146.55	75.87
J333	0.11	146.55	76.06
J335	0.11	146.55	75.87
J337	0.11	146.55	75.77
J339	0.11	146.55	76.02
J34	0.07	146.61	76.76
J341	0.11	146.55	76.10
J343	0.11	146.55	75.97
J345	0.11	146.55	76.10
J347	0.11	146.55	76.22
J349	0.11	146.55	76.34
J35	0.07	146.62	76.72
J351	0.11	146.55	76.46
J353	0.11	146.55	76.33
J355	0.11	146.55	76.20
J357	0.11	146.55	76.23
J359	0.11	146.55	76.06
J36	0.07	146.62	76.86
J361	0.11	146.55	75.92
J363	0.11	146.56	76.72
J365	0.11	146.56	76.86
J367	0.11	146.56	76.61
J369	0.11	146.55	75.48
J37	0.08	146.60	76.29
J371	0.11	146.55	75.61
J38	0.08	146.59	76.42
J39	0.08	146.59	76.41
J40	0.11	146.66	76.37
J41	0.11	146.57	76.44
J42	0.11	146.57	76.48
J43	0.11	146.57	76.38
J44	0.11	146.56	76.53
J45	0.11	146.56	76.41
J46	0.11	146.66	76.40
J48	0.11	146.65	76.44
J50	0.11	146.65	76.35
J51	0.11	146.65	76.49
J52	0.11	146.64	76.51
J53	0.11	146.64	76.60
J55	0.11	146.63	77.09
J56	0.11	146.61	76.93
J57	0.11	146.61	77.07
J58	0.11	146.61	76.94
J59	0.11	146.61	76.83
J60	0.11	146.61	77.06
J61	0.11	146.61	76.93
J62	0.11	146.61	76.83
J63	0.11	146.60	76.88
J64	0.11	146.60	77.00
J65	0.11	146.60	77.01
J66	0.11	146.60	76.84
J67	0.11	146.60	76.91
J68	0.11	146.60	77.05
J69	0.11	146.60	76.91
J70	0.11	146.60	76.74
J71	0.11	146.60	76.69
J72	0.11	146.60	76.79
J73	0.11	146.60	76.91
J74	0.11	146.60	76.81
J75	0.10	146.60	76.45
J76	0.10	146.60	76.62
J77	0.10	146.60	76.34
J78	0.07	146.61	76.50
J79	0.07	146.61	76.60
J80	0.15	146.59	76.15
J81	0.15	146.59	75.96
J82	0.15	146.59	76.00
J83	0.15	146.60	76.22
J84	0.15	146.60	76.10
J85	0.15	146.60	76.19
J86	0.15	146.60	76.41
J87	0.15	146.60	76.37
J88	0.15	146.60	76.22
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J90	0.15	146.60	76.05
J91	0.15	146.60	76.35
J92	0.15	146.60	76.16
J93	0.15	146.60	76.05
J94	0.08	146.59	76.67
J95	0.08	146.59	76.90
J96	0.08	146.59	76.77
J97	0.08	146.59	76.53
J98	0.00	146.59	76.69

163401817 - Barrhaven Conservancy West: Water Distribution System Analysis

Table C-2: Model Results - PKHR

Junction ID	Demand (L/s)	Head (m)	Pressure (psi)
Maximum	*0.83*	*140.68*	*67.84*
Minimum	*0.00*	*138.90*	*64.14*
J01	0.39	140.37	66.62
J02	0.00	140.23	67.04
J05	0.39	140.13	67.39
J06	0.39	140.12	67.53
J07	0.58	140.17	67.76
J08	0.58	140.25	67.74
J09	0.58	140.31	67.31
J10	0.58	140.39	67.68
J100	0.83	139.57	65.98
J101	0.83	139.55	66.10
J102	0.83	139.51	65.93
J103	0.83	139.55	65.83
J109	0.59	139.28	65.73
J11	0.58	140.45	67.66
J110	0.59	139.27	65.90
J111	0.59	139.27	65.97
J112	0.59	139.21	65.78
J113	0.59	139.20	65.68
J114	0.59	139.19	65.52
J115	0.59	139.18	65.49
J116	0.59	139.18	65.52
J117	0.59	139.19	65.66
J118	0.59	139.19	65.75
J119	0.59	139.18	65.86
J12	0.58	140.68	67.84
J120	0.59	139.17	65.85
J121	0.59	139.17	65.66
J122	0.59	139.16	65.48
J123	0.59	139.16	65.61
J124	0.59	139.15	65.75
J125	0.59	139.16	65.95
J128	0.00	139.25	66.43
J129	0.59	139.25	66.41
J130	0.59	139.26	66.21
J131	0.59	139.25	66.30
J132	0.59	139.24	66.13
J133	0.59	139.18	66.13
J134	0.59	139.17	66.25
J135	0.59	139.17	66.34
J136	0.59	139.17	66.21
J137	0.59	139.16	66.12
J14	0.59	139.17	66.25
J15	0.39	140.01	67.08
J152	0.58	140.16	67.78
J153	0.83	139.66	66.07
J154	0.59	139.19	66.01
J155	0.59	139.16	66.08
J156	0.00	139.11	65.76
J158	0.00	139.68	67.06
J16	0.39	139.92	67.11
J162	0.00	139.31	65.66
J164	0.00	139.26	65.66
J166	0.00	139.19	65.38
J168	0.00	139.15	65.61
J17	0.39	139.82	66.80
J170	0.00	139.09	65.01
J172	0.00	139.35	65.72
J174	0.83	139.41	65.97
J176	0.83	139.41	66.08
J178	0.44	139.46	66.38
J18	0.39	139.72	66.45
J180	0.44	139.56	66.73
J182	0.44	139.65	66.98
J184	0.44	139.71	67.11
J186	0.44	139.40	66.20
J188	0.00	139.28	65.66
J19	0.56	139.70	66.21
J20	0.56	139.68	66.65
J201	0.62	139.03	65.79
J203	0.62	139.00	65.68
J205	0.62	138.97	65.57
J207	0.62	139.03	66.15
J209	0.62	139.01	65.92
J21	0.56	139.68	66.48
J211	0.62	138.99	65.79
J213	0.62	138.97	65.66
J215	0.62	138.97	65.56
J217	0.62	139.03	65.99
J219	0.62	139.01	65.71
J22	0.56	139.67	66.53
J221	0.62	138.97	64.93
J223	0.62	138.97	65.10
J225	0.62	138.96	65.40
J227	0.62	138.97	65.28
J229	0.62	138.96	66.75
J23	0.56	139.68	66.67
J231	0.62	138.96	65.36
J233	0.62	138.95	65.26
J235	0.62	138.96	65.49
J237	0.62	138.96	65.49
J239	0.62	138.96	65.60
J24	0.56	139.69	66.81
J241	0.62	138.96	65.61
J243	0.62	138.92	64.72
J245	0.62	138.98	65.51
J247	0.62	138.93	64.99
J249	0.62	138.94	65.09
J25	0.56	139.69	66.71
J251	0.62	138.93	64.95
J253	0.62	138.92	64.83
J255	0.62	138.94	65.29
J257	0.62	138.94	65.18
J259	0.62	138.93	65.01
J26	0.56	139.70	66.82
J261	0.62	138.92	64.83
J263	0.62	138.92	64.33
J265	0.62	138.92	65.04
J267	0.62	138.93	65.13
J269	0.62	138.92	64.64
J27	0.56	139.72	66.97
J271	0.62	138.92	64.54
J273	0.62	138.92	64.81
J275	0.62	138.92	64.71
J277	0.62	138.92	64.61
J279	0.62	138.92	64.52
J28	0.56	139.74	66.93
J281	0.62	138.92	64.42
J283	0.62	138.91	66.35
J285	0.62	138.91	64.22
J287	0.62	138.91	64.22
J289	0.62	138.91	64.40
J29	0.56	139.76	66.95
J291	0.62	138.91	64.27
J293	0.62	138.91	64.49
J295	0.62	138.91	64.20
J297	0.62	138.91	64.37
J299	0.62	138.92	64.49
J30	0.39	139.79	66.92
J301	0.62	138.92	64.67
J303	0.00	138.91	64.14
J305	0.00	138.91	64.28
J307	0.62	138.90	64.35
J309	0.62	138.90	64.30
J31	0.39	139.82	67.10
J311	0.62	138.90	64.16
J313	0.62	138.90	64.29
J315	0.62	138.90	64.37
J317	0.62	138.90	64.34
J319	0.62	138.90	64.60
J32	0.39	139.86	67.05
J321	0.62	138.90	64.82
J323	0.62	138.90	64.50
J325	0.62	138.90	64.64
J327	0.62	138.90	64.70
J329	0.62	138.90	64.83
J33	0.39	139.89	67.32
J331	0.62	138.91	65.00
J333	0.62	138.91	65.19
J335	0.62	138.90	65.00
J337	0.62	138.90	64.90
J339	0.62	138.90	65.14
J34	0.39	139.92	67.24
J341	0.62	138.90	65.22
J343	0.62	138.90	65.09
J345	0.62	138.90	65.22
J347	0.62	138.90	65.33
J349	0.62	138.90	65.46
J35	0.39	139.98	67.28
J351	0.62	138.90	65.58
J353	0.62	138.90	65.45
J355	0.62	138.90	65.32
J357	0.62	138.90	65.35
J359	0.62	138.90	65.18
J36	0.39	140.06	67.53
J361	0.62	138.90	65.04
J363	0.62	139.01	65.99
J365	0.62	139.02	66.14
J367	0.62	139.01	65.87
J369	0.62	138.92	64.63
J37	0.44	139.63	66.39
J371	0.62	138.92	64.75
J38	0.44	139.61	66.49
J39	0.44	139.60	66.48
J40	0.58	140.63	67.80
J41	0.59	139.33	66.15
J42	0.59	139.28	66.12
J43	0.59	139.24	65.96
J44	0.59	139.18	66.04
J45	0.59	139.12	65.84
J46	0.58	140.57	67.75
J48	0.58	140.50	67.69
J50	0.58	140.43	67.51
J51	0.58	140.41	67.62
J52	0.58	140.28	67.47
J53	0.58	140.27	67.55
J55	0.58	140.12	67.84
J56	0.58	139.92	67.41
J57	0.58	139.89	67.52
J58	0.58	139.88	67.37
J59	0.58	139.81	67.16
J60	0.58	139.80	67.38
J61	0.58	139.79	67.25
J62	0.58	139.79	67.14
J63	0.58	139.75	67.14
J64	0.58	139.74	67.25
J65	0.58	139.74	67.26
J66	0.58	139.74	67.08
J67	0.58	139.71	67.12
J68	0.58	139.71	67.25
J69	0.58	139.71	67.11
J70	0.58	139.70	66.94
J71	0.58	139.69	66.87
J72	0.58	139.69	66.97
J73	0.58	139.69	67.08
J74	0.58	139.69	66.98
J75	0.56	139.69	66.63
J76	0.56	139.71	66.83
J77	0.56	139.74	66.59
J78	0.39	139.78	66.79
J79	0.39	139.85	66.99
J80	0.83	139.62	66.23
J81	0.83	139.57	65.98
J82	0.83	139.60	66.07
J83	0.83	139.64	66.33
J84	0.80	139.68	66.25
J85	0.80	139.68	66.35
J86	0.80	139.68	66.57
J87	0.80	139.68	66.53
J88	0.80	139.68	66.39
J89	0.80	139.69	66.40
J90	0.83	139.67	66.21
J91	0.83	139.66	66.48
J92	0.83	139.64	66.28
J93	0.83	139.63	66.14
J94	0.44	139.61	66.74
J95	0.44	139.61	66.97
J96	0.44	139.61	66.84
J97	0.44	139.60	66.59
J98	0.00	139.64	66.82

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Table C-3: Model Results - MXDY+FF

Junction ID	Base Demand (L/s)	Required Fire Flow (L/s)	Residual Pressure (psi)	Available Fire Flow @ Residual 20 psi (L/s)
Maximum	*0.38*	*216.67*	*54.79*	*584.55*
Minimum	*0.00*	*216.67*	*0.10*	*175.04*
J01	0.18	216.67	53.29	542.93
J02	0.00	216.67	54.00	560.49
J05	0.18	216.67	54.74	584.55
J06	0.18	216.67	54.79	584.31
J07	0.27	216.67	54.68	570.89
J08	0.27	216.67	54.32	557.22
J09	0.27	216.67	53.72	548.42
J10	0.27	216.67	53.98	548.55
J100	0.38	216.67	44.68	362.52
J101	0.38	216.67	50.37	464.39
J102	0.38	216.67	50.16	462.49
J103	0.38	216.67	44.16	357.02
J109	0.27	216.67	46.63	394.47
J11	0.27	216.67	53.95	549.78
J110	0.27	216.67	46.50	390.36
J111	0.27	216.67	46.99	397.64
J112	0.27	216.67	42.15	335.80
J113	0.27	216.67	34.16	274.72
J114	0.27	216.67	32.99	268.45
J115	0.27	216.67	35.58	283.78
J116	0.27	216.67	38.40	303.52
J117	0.27	216.67	36.70	290.70
J118	0.27	216.67	41.22	326.79
J119	0.27	216.67	42.63	340.67
J12	0.27	216.67	54.61	578.41
J120	0.27	216.67	41.29	327.02
J121	0.27	216.67	38.52	303.99
J122	0.27	216.67	32.22	264.43
J123	0.27	216.67	32.45	265.45
J124	0.27	216.67	39.28	309.74
J125	0.27	216.67	36.34	287.51
J129	0.27	216.67	31.10	257.49
J130	0.27	216.67	34.67	276.45
J131	0.27	216.67	31.21	258.15
J132	0.27	216.67	34.67	276.66
J133	0.27	216.67	34.97	278.55
J134	0.27	216.67	31.90	261.69
J135	0.27	216.67	32.36	263.87
J136	0.27	216.67	34.34	274.76
J15	0.18	216.67	52.92	518.63
J152	0.27	216.67	50.00	430.38
J153	0.38	216.67	49.38	440.96
J154	0.27	216.67	45.62	376.70
J155	0.27	216.67	45.06	368.60
J156	0.00	216.67	43.64	353.23
J16	0.18	216.67	52.68	508.86
J162	0.00	216.67	46.98	400.66
J164	0.00	216.67	45.90	383.64
J166	0.00	216.67	43.58	354.78
J168	0.00	216.67	42.91	345.63
J17	0.18	216.67	51.96	493.38
J170	0.00	216.67	41.59	335.12
J172	0.00	216.67	47.63	411.14
J174	0.38	216.67	49.30	441.35
J176	0.38	216.67	48.70	426.37
J178	0.20	216.67	49.28	433.66
J18	0.18	216.67	51.84	498.20
J180	0.20	216.67	49.58	433.56
J182	0.20	216.67	49.86	434.87
J184	0.20	216.67	50.06	436.46
J186	0.20	216.67	49.18	434.93
J188	0.00	216.67	46.80	397.83
J19	0.25	216.67	50.63	468.94
J20	0.25	216.67	51.36	479.48
J201	0.28	216.67	42.19	337.51
J203	0.28	216.67	41.47	330.97
J205	0.28	216.67	40.66	323.82
J207	0.28	216.67	42.90	342.84
J209	0.28	216.67	41.96	334.43
J21	0.25	216.67	50.65	463.94
J211	0.28	216.67	40.99	325.65
J213	0.28	216.67	37.98	300.69
J215	0.28	216.67	37.51	297.48
J217	0.28	216.67	40.49	319.80
J219	0.28	216.67	34.69	278.17
J22	0.25	216.67	51.23	478.56
J221	0.28	216.67	38.90	310.92
J223	0.28	216.67	39.30	313.66
J225	0.28	216.67	39.66	315.57
J227	0.28	216.67	33.37	271.45
J229	0.28	216.67	34.77	276.51
J23	0.25	216.67	50.88	466.32
J231	0.28	216.67	39.48	314.19
J233	0.28	216.67	39.53	315.14
J235	0.28	216.67	32.41	265.89
J237	0.28	216.67	28.36	246.57
J239	0.28	216.67	24.12	230.14
J24	0.25	216.67	50.43	452.49
J241	0.28	216.67	28.44	246.79
J243	0.28	216.67	35.42	285.68
J245	0.28	216.67	39.66	314.91
J247	0.28	216.67	36.89	295.15
J249	0.28	216.67	38.37	306.15
J25	0.25	216.67	50.10	446.35
J251	0.28	216.67	37.36	298.79
J253	0.28	216.67	33.54	273.52
J255	0.28	216.67	37.82	301.00
J257	0.28	216.67	37.85	301.57
J259	0.28	216.67	28.83	249.09
J26	0.25	216.67	50.19	446.51
J261	0.28	216.67	30.03	254.86
J263	0.28	216.67	35.25	285.53
J265	0.28	216.67	36.27	290.51
J267	0.28	216.67	36.66	292.96
J269	0.28	216.67	30.29	256.34
J27	0.25	216.67	50.53	451.84
J271	0.28	216.67	29.92	254.69
J273	0.28	216.67	36.89	295.69
J275	0.28	216.67	36.70	294.65
J277	0.28	216.67	36.54	293.86
J279	0.28	216.67	35.29	285.31
J28	0.25	216.67	50.42	450.01
J281	0.28	216.67	34.96	283.33
J283	0.28	216.67	30.50	255.24
J285	0.28	216.67	27.97	246.08
J287	0.28	216.67	31.96	265.72
J289	0.28	216.67	29.18	251.36
J29	0.25	216.67	50.58	453.31
J291	0.28	216.67	35.23	285.61
J293	0.28	216.67	35.50	286.85
J295	0.28	216.67	34.87	283.41
J297	0.28	216.67	29.85	254.57
J299	0.28	216.67	34.34	279.20
J30	0.18	216.67	50.98	463.67
J301	0.28	216.67	28.91	249.84
J303	0.00	216.67	34.50	280.87
J305	0.00	216.67	33.75	275.79
J307	0.28	216.67	33.59	274.98
J309	0.28	216.67	24.82	233.24
J31	0.18	216.67	51.24	467.28
J311	0.28	216.67	32.55	269.27
J313	0.28	216.67	22.70	225.66
J315	0.28	216.67	32.92	271.00
J317	0.28	216.67	32.02	265.93
J319	0.28	216.67	31.78	264.23
J32	0.18	216.67	51.60	478.08
J321	0.28	216.67	32.75	269.20
J323	0.28	216.67	32.20	266.66
J325	0.28	216.67	31.93	264.93
J327	0.28	216.67	31.36	261.84
J329	0.28	216.67	29.44	252.16
J33	0.18	216.67	52.24	490.37
J331	0.28	216.67	30.65	257.80
J333	0.28	216.67	34.58	279.20
J335	0.28	216.67	33.52	273.26
J337	0.28	216.67	33.07	270.85
J339	0.28	216.67	32.47	267.08
J34	0.18	216.67	52.84	511.38
J341	0.28	216.67	32.20	265.50
J343	0.28	216.67	26.40	238.92
J345	0.28	216.67	29.68	252.92
J347	0.28	216.67	27.64	243.81
J349	0.28	216.67	27.00	241.10
J35	0.18	216.67	53.20	523.53
J351	0.28	216.67	27.63	243.57
J353	0.28	216.67	29.52	251.92
J355	0.28	216.67	24.73	232.48
J357	0.28	216.67	32.10	264.74
J359	0.28	216.67	31.50	261.87
J36	0.18	216.67	54.07	550.36
J361	0.28	216.67	31.56	262.39
J363	0.28	216.67	3.54	180.50
J365	0.28	216.67	0.10	175.04
J367	0.28	216.67	41.63	331.43
J369	0.28	216.67	9.96	191.72
J37	0.20	216.67	50.45	460.25
J371	0.28	216.67	33.79	275.20
J38	0.20	216.67	49.92	445.86
J39	0.20	216.67	48.87	423.56
J40	0.27	216.67	54.40	568.96
J41	0.27	216.67	48.18	416.33
J42	0.27	216.67	47.65	407.29
J43	0.27	216.67	46.33	387.53
J44	0.27	216.67	45.49	374.67
J45	0.27	216.67	44.14	358.89
J46	0.27	216.67	54.21	560.26
J48	0.27	216.67	54.03	552.70
J50	0.27	216.67	46.80	381.60
J51	0.27	216.67	46.49	376.02
J52	0.27	216.67	43.83	344.45
J53	0.27	216.67	43.15	336.82
J55	0.27	216.67	46.05	366.57
J56	0.27	216.67	41.67	322.45
J57	0.27	216.67	43.72	341.36
J58	0.27	216.67	42.37	328.88
J59	0.27	216.67	38.47	298.27
J60	0.27	216.67	34.53	273.32
J61	0.27	216.67	34.12	271.37
J62	0.27	216.67	38.21	296.44
J63	0.27	216.67	38.53	298.65
J64	0.27	216.67	35.03	276.33
J65	0.27	216.67	35.12	276.77
J66	0.27	216.67	39.34	304.72
J67	0.27	216.67	39.87	308.63
J68	0.27	216.67	35.37	278.22
J69	0.27	216.67	35.40	278.71
J70	0.27	216.67	38.90	301.94
J71	0.27	216.67	39.30	305.16
J72	0.27	216.67	35.66	280.57
J73	0.27	216.67	35.84	281.38
J74	0.27	216.67	39.11	303.38
J75	0.25	216.67	42.09	329.70
J76	0.25	216.67	46.62	381.47
J77	0.25	216.67	41.50	324.43
J78	0.18	216.67	47.17	389.86
J79	0.18	216.67	43.70	344.12
J80	0.38	216.67	39.09	305.87
J81	0.38	216.67	49.90	454.28
J82	0.38	216.67	49.29	438.57
J83	0.38	216.67	50.02	450.97
J84	0.36	216.67	50.05	453.41
J85	0.36	216.67	33.14	267.82
J86	0.36	216.67	29.44	250.00
J87	0.36	216.67	29.45	250.08
J88	0.36	216.67	33.57	270.05
J89	0.36	216.67	50.89	472.00
J90	0.38	216.67	42.50	336.31
J91	0.38	216.67	49.26	431.73
J92	0.38	216.67	38.81	303.65
J93	0.38	216.67	35.73	282.96
J94	0.20	216.67	46.67	383.00
J95	0.20	216.67	44.14	348.87
J96	0.20	216.67	42.96	337.07
J97	0.20	216.67	37.89	295.61

Sufficient hydrant coverage to meet the RFF.

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Table C-4: Model Results - AVDY+FF (Reliability Analysis Scenarios 1 to 3)

	Break Scenario 1 (Connection 1 Break)				Break Scenario 2 (Connection 2 Break)				Break Scenario 3 (Connection 3 Break)			
Junction ID	Base Demand (L/s)	Required Fire Flow (L/s)	Residual Pressure (psi)	Available Fire Flow @ Residual 20 psi (L/s)	Base Demand (L/s)	Required Fire Flow (L/s)	Residual Pressure (psi)	Available Fire Flow @ Residual 20 psi (L/s)	Base Demand (L/s)	Required Fire Flow (L/s)	Residual Pressure (psi)	Available Fire Flow @ Residual 20 psi (L/s)
Maximum	*0.15*	*216.67*	*55.44*	*522.37*	*0.15*	*216.67*	*53.02*	*446.25*	*0.15*	*216.67*	*55.87*	*537.74*
Minimum	*0.00*	*216.67*	*0.79*	*178.58*	*0.00*	*216.67*	*1.66*	*180.60*	*0.00*	*216.67*	*-6.01*	*168.59*
J01	0.07	216.67	42.49	322.62	0.07	216.67	52.82	446.25	0.07	216.67	52.83	464.85
J02	0.00	216.67	47.13	365.68	0.00	216.67	52.77	438.21	0.00	216.67	52.92	459.83
J05	0.07	216.67	50.69	411.50	0.07	216.67	52.88	434.80	0.07	216.67	53.15	459.24
J06	0.07	216.67	51.96	432.12	0.07	216.67	51.89	415.95	0.07	216.67	53.24	459.48
J07	0.11	216.67	52.48	439.60	0.11	216.67	49.68	382.07	0.11	216.67	53.56	463.66
J08	0.11	216.67	52.75	446.29	0.11	216.67	46.66	348.62	0.11	216.67	53.70	468.32
J09	0.11	216.67	52.58	450.30	0.11	216.67	44.03	327.08	0.11	216.67	53.45	470.90
J10	0.11	216.67	53.39	463.44	0.11	216.67	41.39	305.95	0.11	216.67	54.14	482.54
J100	0.15	216.67	43.99	333.80	0.15	216.67	44.88	336.33	0.15	216.67	37.28	286.45
J101	0.15	216.67	47.86	375.22	0.15	216.67	48.76	377.58	0.15	216.67	42.97	327.73
J102	0.15	216.67	46.62	360.84	0.15	216.67	47.52	363.29	0.15	216.67	42.38	323.25
J103	0.15	216.67	43.40	329.08	0.15	216.67	44.29	331.64	0.15	216.67	36.33	281.18
J109	0.11	216.67	46.33	358.13	0.11	216.67	47.20	360.58	0.11	216.67	39.82	303.26
J11	0.11	216.67	53.71	472.60	0.11	216.67	39.31	292.75	0.11	216.67	54.39	490.72
J110	0.11	216.67	46.39	357.53	0.11	216.67	47.25	359.97	0.11	216.67	39.71	301.87
J111	0.11	216.67	47.08	365.09	0.11	216.67	47.95	367.49	0.11	216.67	40.23	305.37
J112	0.11	216.67	42.39	319.64	0.11	216.67	43.26	322.19	0.11	216.67	35.52	276.11
J113	0.11	216.67	34.46	269.36	0.11	216.67	35.33	271.88	0.11	216.67	27.59	240.74
J114	0.11	216.67	33.31	263.99	0.11	216.67	34.17	266.50	0.11	216.67	26.43	236.68
J115	0.11	216.67	35.90	277.23	0.11	216.67	36.77	279.77	0.11	216.67	29.03	246.38
J116	0.11	216.67	38.72	293.85	0.11	216.67	39.59	296.42	0.11	216.67	31.85	258.26
J117	0.11	216.67	37.01	283.09	0.11	216.67	37.88	285.63	0.11	216.67	30.14	250.71
J118	0.11	216.67	41.51	312.72	0.11	216.67	42.38	315.28	0.11	216.67	34.64	271.43
J119	0.11	216.67	42.96	323.92	0.11	216.67	43.83	326.45	0.11	216.67	36.08	279.03
J12	0.11	216.67	55.44	522.37	0.11	216.67	47.03	361.41	0.11	216.67	55.87	537.74
J120	0.11	216.67	41.62	313.12	0.11	216.67	42.49	315.67	0.11	216.67	34.75	271.80
J121	0.11	216.67	38.85	294.33	0.11	216.67	39.72	296.89	0.11	216.67	31.98	258.69
J122	0.11	216.67	32.58	260.62	0.11	216.67	33.45	263.13	0.11	216.67	25.71	234.18
J123	0.11	216.67	32.82	261.55	0.11	216.67	33.69	264.05	0.11	216.67	25.95	234.95
J124	0.11	216.67	39.64	299.18	0.11	216.67	40.51	301.74	0.11	216.67	32.78	262.21
J125	0.11	216.67	36.69	280.57	0.11	216.67	37.56	283.10	0.11	216.67	29.82	249.11
J129	0.11	216.67	31.40	254.45	0.11	216.67	32.27	256.88	0.11	216.67	24.44	229.69
J130	0.11	216.67	34.95	271.00	0.11	216.67	35.82	273.49	0.11	216.67	27.99	241.89
J131	0.11	216.67	31.51	255.02	0.11	216.67	32.38	257.46	0.11	216.67	24.56	230.09
J132	0.11	216.67	34.96	271.17	0.11	216.67	35.83	273.67	0.11	216.67	28.02	242.07
J133	0.11	216.67	35.34	273.05	0.11	216.67	36.21	275.55	0.11	216.67	28.46	243.67
J134	0.11	216.67	32.30	258.44	0.11	216.67	33.17	260.89	0.11	216.67	25.42	232.88
J135	0.11	216.67	32.77	260.42	0.11	216.67	33.64	262.88	0.11	216.67	25.89	234.43
J136	0.11	216.67	34.74	269.86	0.11	216.67	35.61	272.35	0.11	216.67	27.86	241.40
J15	0.07	216.67	49.79	398.82	0.07	216.67	51.34	410.27	0.07	216.67	50.50	412.08
J152	0.11	216.67	47.64	365.50	0.11	216.67	45.78	339.11	0.11	216.67	48.72	379.19
J153	0.15	216.67	48.09	379.82	0.15	216.67	49.02	382.42	0.15	216.67	43.93	336.59
J154	0.11	216.67	45.93	351.46	0.11	216.67	46.80	353.92	0.11	216.67	39.04	296.82
J155	0.11	216.67	45.41	345.56	0.11	216.67	46.28	348.03	0.11	216.67	38.55	293.31
J156	0.00	216.67	44.09	334.21	0.00	216.67	44.96	336.74	0.00	216.67	37.26	285.93
J158	0.00	216.67	51.65	423.38	0.00	216.67	52.51	425.35	0.00	216.67	41.24	310.32
J16	0.07	216.67	50.06	401.37	0.07	216.67	51.34	408.70	0.07	216.67	49.65	398.05
J162	0.00	216.67	46.27	357.96	0.00	216.67	47.14	360.41	0.00	216.67	40.07	305.27
J164	0.00	216.67	45.64	350.80	0.00	216.67	46.51	353.28	0.00	216.67	39.15	298.60
J166	0.00	216.67	43.63	332.13	0.00	216.67	44.50	334.68	0.00	216.67	37.00	285.40
J168	0.00	216.67	43.12	326.41	0.00	216.67	43.99	328.96	0.00	216.67	36.44	281.49
J17	0.07	216.67	49.85	399.95	0.07	216.67	50.97	404.93	0.07	216.67	48.15	379.45
J170	0.00	216.67	42.00	319.35	0.00	216.67	42.86	321.94	0.00	216.67	35.26	275.97
J172	0.00	216.67	46.32	358.33	0.00	216.67	47.19	360.78	0.00	216.67	40.56	308.75
J174	0.15	216.67	46.88	363.57	0.15	216.67	47.75	365.98	0.15	216.67	41.91	318.80
J176	0.15	216.67	47.87	374.73	0.15	216.67	48.74	377.08	0.15	216.67	41.59	315.72
J178	0.08	216.67	49.99	401.91	0.08	216.67	50.86	404.05	0.08	216.67	41.92	317.38
J18	0.07	216.67	50.32	410.01	0.07	216.67	51.30	412.99	0.07	216.67	47.14	369.30
J180	0.08	216.67	50.47	406.63	0.08	216.67	51.34	408.73	0.08	216.67	41.40	312.36
J182	0.08	216.67	51.35	419.29	0.08	216.67	52.21	421.30	0.08	216.67	41.18	310.26
J184	0.08	216.67	52.17	432.78	0.08	216.67	53.02	434.69	0.08	216.67	41.20	310.11
J186	0.08	216.67	49.96	402.89	0.08	216.67	50.83	405.03	0.08	216.67	42.53	322.92
J188	0.00	216.67	46.41	359.34	0.00	216.67	47.28	361.79	0.00	216.67	39.98	304.52
J19	0.10	216.67	49.38	397.41	0.10	216.67	50.32	399.91	0.10	216.67	45.68	353.78
J20	0.10	216.67	50.31	406.99	0.10	216.67	51.22	409.00	0.10	216.67	46.26	357.33
J201	0.11	216.67	42.77	322.44	0.11	216.67	43.64	324.99	0.11	216.67	35.99	278.54
J203	0.11	216.67	42.14	317.70	0.11	216.67	43.01	320.25	0.11	216.67	35.36	275.22
J205	0.11	216.67	41.41	312.36	0.11	216.67	42.28	314.93	0.11	216.67	34.62	271.51
J207	0.11	216.67	43.48	326.85	0.11	216.67	44.35	329.37	0.11	216.67	36.68	281.65
J209	0.11	216.67	42.60	320.41	0.11	216.67	43.47	322.94	0.11	216.67	35.80	277.19
J21	0.10	216.67	49.82	401.01	0.10	216.67	50.72	402.88	0.10	216.67	45.45	349.67
J211	0.11	216.67	41.68	313.61	0.11	216.67	42.55	316.16	0.11	216.67	34.89	272.51
J213	0.11	216.67	38.72	293.21	0.11	216.67	39.59	295.77	0.11	216.67	31.92	258.30
J215	0.11	216.67	38.26	290.57	0.11	216.67	39.13	293.13	0.11	216.67	31.47	256.37
J217	0.11	216.67	41.08	308.36	0.11	216.67	41.95	310.90	0.11	216.67	34.28	269.08
J219	0.11	216.67	35.35	273.69	0.11	216.67	36.22	276.21	0.11	216.67	28.56	244.28
J22	0.10	216.67	50.72	415.04	0.10	216.67	51.60	416.61	0.10	216.67	45.93	354.74
J221	0.11	216.67	39.65	301.65	0.11	216.67	40.52	304.26	0.11	216.67	32.86	263.67
J223	0.11	216.67	40.07	304.04	0.11	216.67	40.94	306.63	0.11	216.67	33.28	265.44
J225	0.11	216.67	40.46	305.79	0.11	216.67	41.32	308.37	0.11	216.67	33.66	266.88
J227	0.11	216.67	34.13	268.21	0.11	216.67	35.00	270.74	0.11	216.67	27.34	240.00
J229	0.11	216.67	35.54	272.80	0.11	216.67	36.41	275.27	0.11	216.67	28.75	244.22
J23	0.10	216.67	50.08	403.15	0.10	216.67	50.95	404.60	0.10	216.67	45.91	353.43
J231	0.11	216.67	40.28	304.64	0.11	216.67	41.14	307.22	0.11	216.67	33.48	266.06
J233	0.11	216.67	40.36	305.61	0.11	216.67	41.23	308.20	0.11	216.67	33.57	266.65
J235	0.11	216.67	33.25	263.63	0.11	216.67	34.12	266.14	0.11	216.67	26.45	236.72
J237	0.11	216.67	29.21	246.39	0.11	216.67	30.08	248.84	0.11	216.67	22.42	223.66
J239	0.11	216.67	24.98	231.38	0.11	216.67	25.85	233.75	0.11	216.67	18.18	212.00
J24	0.10	216.67	49.45	392.32	0.10	216.67	50.30	393.57	0.10	216.67	45.68	349.99
J241	0.11	216.67	29.29	246.58	0.11	216.67	30.15	249.03	0.11	216.67	22.49	223.87
J243	0.11	216.67	36.37	281.31	0.11	216.67	37.24	283.91	0.11	216.67	29.58	249.19
J245	0.11	216.67	40.38	304.95	0.11	216.67	41.25	307.52	0.11	216.67	33.59	266.37
J247	0.11	216.67	37.80	289.23	0.11	216.67	38.67	291.82	0.11	216.67	31.01	255.02
J249	0.11	216.67	39.24	298.31	0.11	216.67	40.11	300.91	0.11	216.67	32.45	261.48
J25	0.10	216.67	48.98	386.74	0.10	216.67	49.81	387.79	0.10	216.67	45.51	348.77
J251	0.11	216.67	38.27	292.27	0.11	216.67	39.14	294.87	0.11	216.67	31.48	257.15
J253	0.11	216.67	34.46	270.64	0.11	216.67	35.33	273.20	0.11	216.67	27.67	241.54
J255	0.11	216.67	38.69	294.02	0.11	216.67	39.55	296.60	0.11	216.67	31.89	258.62
J257	0.11	216.67	38.69	294.34	0.11	216.67	39.56	296.93	0.11	216.67	31.90	258.78
J259	0.11	216.67	29.72	248.82	0.11	216.67	30.59	251.31	0.11	216.67	22.93	225.31
J26	0.10	216.67	48.93	385.07	0.10	216.67	49.73	385.80	0.10	216.67	45.81	351.20
J261	0.11	216.67	30.95	254.10	0.11	216.67	31.82	256.61	0.11	216.67	24.16	229.23
J263	0.11	216.67	36.18	281.03	0.11	216.67	37.05	283.65	0.11	216.67	29.39	248.75
J265	0.11	216.67	37.19	285.32	0.11	216.67	38.06	287.91	0.11	216.67	30.39	252.29
J267	0.11	216.67	37.56	287.35	0.11	216.67	38.43	289.93	0.11	216.67	30.77	253.80
J269	0.11	216.67	31.21	255.45	0.11	216.67	32.08	257.98	0.11	216.67	24.42	230.15
J27	0.10	216.67	49.15	387.00	0.10	216.67	49.94	387.40	0.10	216.67	46.33	355.83
J271	0.11	216.67	30.85	254.01	0.11	216.67	31.72	256.54	0.11	216.67	24.06	229.01
J273	0.11	216.67	37.81	289.70	0.11	216.67	38.68	292.30	0.11	216.67	31.01	255.24
J275	0.11	216.67	37.63	288.85	0.11	216.67	38.50	291.46	0.11	216.67	30.84	254.57
J277	0.11	216.67	37.49	288.22	0.11	216.67	38.35	290.84	0.11	216.67	30.69	254.06
J279	0.11	216.67	36.24	280.93	0.11	216.67	37.10	283.54	0.11	216.67	29.44	248.81
J28	0.10	216.67	48.89	384.00	0.10	216.67	49.64	384.01	0.10	216.67	46.48	357.70
J281	0.11	216.67	35.90	279.21	0.11	216.67	36.77	281.82	0.11	216.67	29.11	247.51
J283	0.11	216.67	31.46	254.62	0.11	216.67	32.33	257.06	0.11	216.67	24.67	230.38
J285	0.11	216.67	28.94	246.37	0.11	216.67	29.81	248.89	0.11	216.67	22.15	223.05
J287	0.11	216.67	32.92	263.92	0.11	216.67	33.79	266.51	0.11	216.67	26.13	236.24
J289	0.11	216.67	30.14	251.11	0.11	216.67	31.01	253.64	0.11	216.67	23.35	226.75
J29	0.10	216.67	48.93	384.63	0.10	216.67	49.67	384.30	0.10	216.67	46.83	361.54
J291	0.11	216.67	36.19	281.24	0.11	216.67	37.06	283.86	0.11	216.67	29.40	248.86
J293	0.11	216.67	36.45	282.27	0.11	216.67	37.32	284.88	0.11	216.67	29.66	249.75
J295	0.11	216.67	35.85	279.40	0.11	216.67	36.72	282.02	0.11	216.67	29.05	247.50
J297	0.11	216.67	30.81	253.99	0.11	216.67	31.68	256.54	0.11	216.67	24.02	228.92
J299	0.11	216.67	35.29	275.65	0.11	216.67	36.16	278.25	0.11	216.67	28.50	244.99
J30	0.07	216.67	49.19	388.83	0.07	216.67	49.90	387.89	0.07	216.67	47.48	369.40
J301	0.11	216.67	29.85	249.66	0.11	216.67	30.72	252.17	0.11	216.67	23.06	225.78
J303	0.00	216.67	35.49	277.35	0.00	216.67	36.35	279.98	0.00	216.67	28.69	245.96
J305	0.00	216.67	34.75	273.07	0.00	216.67	35.62	275.68	0.00	216.67	27.96	242.94
J307	0.11	216.67	34.61	272.28	0.11	216.67	35.48	274.88	0.11	216.67	27.82	242.44
J309	0.11	216.67	25.87	234.90	0.11	216.67	26.74	237.37	0.11	216.67	19.07	214.23
J31	0.07	216.67	49.35	389.84	0.07	216.67	50.02	388.38	0.07	216.67	47.93	373.84
J311	0.11	216.67	33.59	267.33	0.11	216.67	34.46	269.93	0.11	216.67	26.80	238.70
J313	0.11	216.67	23.76	227.89	0.11	216.67	24.62	230.32	0.11	216.67	16.96	208.73
J315	0.11	216.67	33.97	268.91	0.11	216.67	34.84	271.50	0.11	216.67	27.18	239.99
J317	0.11	216.67	33.07	264.47	0.11	216.67	33.94	267.05	0.11	216.67	26.28	236.70
J319	0.11	216.67	32.84	262.99	0.11	216.67	33.71	265.56	0.11	216.67	26.05	235.75
J32	0.07	216.67	49.58	393.97	0.07	216.67	50.18	391.49	0.07	216.67	48.49	381.57
J321	0.11	216.67	33.82	267.43	0.11	216.67	34.69	269.99	0.11	216.67	27.03	239.16
J323	0.11	216.67	33.25	265.11	0.11	216.67	34.12	267.68	0.11	216.67	26.46	237.27
J325	0.11	216.67	32.98	263.59	0.11	216.67	33.85	266.15	0.11	216.67	26.19	236.22
J327	0.11	216.67	32.42	260.84	0.11	216.67	33.28	263.39	0.11	216.67	25.62	234.21
J329	0.11	216.67	30.49	252.15	0.11	216.67	31.35	254.66	0.11	216.67	23.69	227.74
J33	0.07	216.67	50.10	399.41	0.07	216.67	50.65	395.85	0.07	216.67	49.26	390.08
J331	0.11	216.67	31.70	257.20	0.11	216.67	32.57	259.72	0.11	216.67	24.91	231.64
J333	0.11	216.67	35.60	276.03	0.11	216.67	36.47	278.59	0.11	216.67	28.81	245.68
J335	0.11	216.67	34.58	270.98	0.11	216.67	35.45	273.54	0.11	216.67	27.79	241.87
J337	0.11	216.67	34.13	268.88	0.11	216.67	35.00	271.44	0.11	216.67	27.34	240.27
J339	0.11	216.67	33.55	265.61	0.11	216.67	34.42	268.15	0.11	216.67	26.76	237.99
J34	0.07	216.67	50.58	408.34	0.07	216.67	51.07	403.39	0.07	216.67	50.08	403.22
J341	0.11	216.67	33.29	264.21	0.11	216.67	34.15	266.74	0.11	216.67	26.49	237.00
J343	0.11	216.67	27.48	240.21	0.11	216.67	28.35	242.65	0.11	216.67	20.69	218.70
J345	0.11	216.67	30.79	253.02	0.11	216.67	31.65	255.51	0.11	216.67	23.99	228.59
J347	0.11	216.67	28.75	244.76	0.11	216.67	29.62	247.22	0.11	216.67	21.96	222.33
J349	0.11	216.67	28.12	242.29	0.11	216.67	28.98	244.72	0.11	216.67	21.32	220.47
J35	0.07	216.67	50.81	412.57	0.07	216.67	51.13	404.66	0.07	216.67	50.78	414.37
J351	0.11	216.67	28.74	244.54	0.11	216.67	29.61	246.98	0.11	216.67	21.95	222.27
J353	0.11	216.67	30.63	252.12	0.11	216.67	31.50	254.60	0.11	216.67	23.83	228.02
J355	0.11	216.67	25.84	234.34	0.11	216.67	26.71	236.75	0.11	216.67	19.05	214.22
J357	0.11	216.67	33.19	263.56	0.11	216.67	34.05	266.08	0.11	216.67	26.39	236.58
J359	0.11	216.67	32.58	260.99	0.11	216.67	33.45	263.51	0.11	216.67	25.79	234.57
J36	0.07	216.67	51.52	422.97	0.07	216.67	51.52	409.22	0.07	216.67	52.15	436.53
J361	0.11	216.67	32.64	261.43	0.11	216.67	33.51	263.96	0.11	216.67	25.85	234.82
J363	0.11	216.67	4.24	183.93	0.11	216.67	5.11	185.99	0.11	216.67	-2.56	173.13
J365	0.11	216.67	0.79	178.58	0.11	216.67	1.66	180.60	0.11	216.67	-6.01	168.59
J367	0.11	216.67	42.29	318.09	0.11	216.67	43.16	320.63	0.11	216.67	35.49	275.59
J369	0.11	216.67	10.92	195.45	0.11	216.67	11.79	197.67	0.11	216.67	4.13	182.53
J37	0.08	216.67	50.76	416.60	0.08	216.67	51.64	418.34	0.08	216.67	44.62	342.00
J371	0.11	216.67	34.72	272.12	0.11	216.67	35.59	274.70	0.11	216.67	27.93	242.58
J38	0.08	216.67	51.28	424.31	0.08	216.67	52.16	426.10	0.08	216.67	43.80	333.80
J39	0.08	216.67	50.91	417.95	0.08	216.67	51.79	419.89	0.08	216.67	43.06	327.24
J40	0.11	216.67	55.02	509.00	0.11	216.67	33.88	264.29	0.11	216.67	55.50	524.89
J41	0.11	216.67	48.58	382.87	0.11	216.67	49.45	385.16	0.11	216.67	41.44	314.01
J42	0.11	216.67	47.88	373.82	0.11	216.67	48.75	376.16	0.11	216.67	40.91	309.94
J43	0.11	216.67	46.59	359.27	0.11	216.67	47.46	361.70	0.11	216.67	39.67	301.38
J44	0.11	216.67	45.81	350.00	0.11	216.67	46.68	352.47	0.11	216.67	38.93	295.98
J45	0.11	216.67	44.55	338.33	0.11	216.67	45.42	340.84	0.11	216.67	37.72	288.65
J46	0.11	216.67	54.56	495.21	0.11	216.67	35.64	272.66	0.11	216.67	55.10	511.77
J48	0.11	216.67	54.02	480.52	0.11	216.67	37.88	284.45	0.11	216.67	54.64	498.01
J50	0.11	216.67	46.45	355.53	0.11	216.67	33.28	261.60	0.11	216.67	47.14	363.56
J51	0.11	216.67	46.11	351.01	0.11	216.67	33.37	261.82	0.11	216.67	46.81	358.81
J52	0.11	216.67	42.54	318.55	0.11	216.67	35.35	270.96	0.11	216.67	43.44	326.07
J53	0.11	216.67	41.84	312.72	0.11	216.67	34.97	268.96	0.11	216.67	42.74	319.86
J55	0.11	216.67	43.62	325.15	0.11	216.67	42.52	311.99	0.11	216.67	44.61	334.02
J56	0.11	216.67	39.41	295.12	0.11	216.67	39.85	294.68	0.11	216.67	39.07	293.58
J57	0.11	216.67	41.51	308.93	0.11	216.67	41.98	308.28	0.11	216.67	41.00	306.16
J58	0.11	216.67	40.20	300.26	0.11	216.67	40.71	300.08	0.11	216.67	39.55	296.72
J59	0.11	216.67	36.67	279.29	0.11	216.67	37.35	280.58	0.11	216.67	35.15	271.93
J60	0.11	216.67	32.74	259.77	0.11	216.67	33.43	261.28	0.11	216.67	31.21	253.61
J61	0.11	216.67	32.34	258.18	0.11	216.67	33.03	259.71	0.11	216.67	30.80	252.06
J62	0.11	216.67	36.42	277.96	0.11	216.67	37.11	279.30	0.11	216.67	34.85	270.43
J63	0.11	216.67	36.97	280.82	0.11	216.67	37.71	282.43	0.11	216.67	34.76	270.00
J64	0.11	216.67	33.49	263.19	0.11	216.67	34.24	264.95	0.11	216.67	31.27	253.99
J65	0.11	216.67	33.57	263.56	0.11	216.67	34.32	265.32	0.11	216.67	31.34	254.29
J66	0.11	216.67	37.79	285.60	0.11	216.67	38.54	287.19	0.11	216.67	35.52	273.99
J67	0.11	216.67	38.56	289.97	0.11	216.67	39.36	291.83	0.11	216.67	35.65	274.59
J68	0.11	216.67	34.09	265.89	0.11	216.67	34.89	267.89	0.11	216.67	31.16	253.55
J69	0.11	216.67	34.13	266.27	0.11	216.67	34.92	268.27	0.11	216.67	31.18	253.79
J70	0.11	216.67	37.62	284.82	0.11	216.67	38.42	286.74	0.11	216.67	34.64	269.79
J71	0.11	216.67	38.28	288.81	0.11	216.67	39.12	290.97	0.11	216.67	34.68	270.09
J72	0.11	216.67	34.68	269.11	0.11	216.67	35.52	271.34	0.11	216.67	31.04	253.37
J73	0.11	216.67	34.87	269.84	0.11	216.67	35.71	272.06	0.11	216.67	31.22	253.97
J74	0.11	216.67	38.12	287.59	0.11	216.67	38.97	289.77	0.11	216.67	34.46	268.84
J75	0.10	216.67	40.98	307.20	0.10	216.67	41.83	309.36	0.10	216.67	37.44	285.57
J76	0.10	216.67	45.38	343.58	0.10	216.67	46.23	345.42	0.10	216.67	42.15	317.25
J77	0.10	216.67	40.00	300.70	0.10	216.67	40.82	302.63	0.10	216.67	37.43	285.55
J78	0.07	216.67	45.47	345.13	0.07	216.67	46.25	346.23	0.07	216.67	43.41	327.79
J79	0.07	216.67	41.73	312.19	0.07	216.67	42.41	312.95	0.07	216.67	40.45	303.97
J80	0.15	216.67	38.26	290.04	0.15	216.67	39.16	292.66	0.15	216.67	33.09	263.39
J81	0.15	216.67	47.84	376.21	0.15	216.67	48.74	378.60	0.15	216.67	43.00	328.54
J82	0.15	216.67	47.65	373.44	0.15	216.67	48.56	375.90	0.15	216.67	43.03	328.33
J83	0.15	216.67	48.68	385.27	0.15	216.67	49.60	387.74	0.15	216.67	44.33	339.10
J84	0.15	216.67	48.75	387.46	0.15	216.67	49.69	390.12	0.15	216.67	44.83	344.50
J85	0.15	216.67	31.91	257.20	0.15	216.67	32.86	259.94	0.15	216.67	28.09	242.34
J86	0.15	216.67	28.23	242.36	0.15	216.67	29.18	245.01	0.15	216.67	24.44	229.73
J87	0.15	216.67	28.23	242.41	0.15	216.67	29.18	245.07	0.15	216.67	24.46	229.82
J88	0.15	216.67	32.32	258.99	0.15	216.67	33.27	261.74	0.15	216.67	28.57	244.11
J89	0.15	216.67	49.54	397.83	0.15	216.67	50.50	400.54	0.15	216.67	45.83	354.24
J90	0.15	216.67	41.27	310.82	0.15	216.67	42.20	313.61	0.15	216.67	37.27	285.68
J91	0.15	216.67	48.09	376.24	0.15	216.67	49.02	378.78	0.15	216.67	43.86	333.74
J92	0.15	216.67	37.81	287.29	0.15	216.67	38.72	289.95	0.15	216.67	33.17	263.73
J93	0.15	216.67	34.83	271.11	0.15	216.67	35.74	273.73	0.15	216.67	29.96	249.76
J94	0.08	216.67	50.14	401.56	0.08	216.67	51.01	403.65	0.08	216.67	41.80	315.51
J95	0.08	216.67	50.43	403.45	0.08	216.67	51.30	405.55	0.08	216.67	41.36	311.24
J96	0.08	216.67	50.95	413.28	0.08	216.67	51.82	415.32	0.08	216.67	41.37	311.88
J97	0.08	216.67	41.52	310.65	0.08	216.67	42.39	313.17	0.08	216.67	32.90	262.11
J98	0.00	216.67	51.21	418.21	0.00	216.67	52.07	420.22	0.00	216.67	41.10	310.00

Sufficient hydrant coverage to meet the RFF.

163401817 - Barrhaven Conservancy West: Water Distribution System Analysis

Table C-5: Model Results - AVDY+FF (Reliability Analysis Scenarios 4 to 5)

	Break Scenario 4				Break Scenario 5			
Junction ID	Base Demand (L/s)	Required Fire Flow (L/s)	Residual Pressure (psi)	Available Fire Flow @ Residual 20 psi (L/s)	Base Demand (L/s)	Required Fire Flow (L/s)	Residual Pressure (psi)	Available Fire Flow @ Residual 20 psi (L/s)
Maximum	*0.15*	*216.67*	*59.58*	*658.81*	*0.15*	*216.67*	*59.58*	*658.83*
Minimum	*0.00*	*216.67*	*-12.56*	*161.32*	*0.00*	*216.67*	*-1.27*	*175.86*
J01	0.07	216.67	57.58	594.76	0.07	216.67	57.58	594.77
J02	0.00	216.67	58.54	622.33	0.00	216.67	58.54	622.35
J05	0.07	216.67	59.50	658.52	0.07	216.67	59.50	658.54
J06	0.07	216.67	59.58	658.81	0.07	216.67	59.58	658.83
J07	0.11	216.67	59.32	636.57	0.11	216.67	59.32	636.59
J08	0.11	216.67	58.78	614.73	0.11	216.67	58.78	614.75
J09	0.11	216.67	58.06	601.57	0.11	216.67	58.06	601.58
J10	0.11	216.67	58.17	597.16	0.11	216.67	58.17	597.17
J100	0.15	216.67	50.47	403.99	0.15	216.67	50.47	404.02
J101	0.15	216.67	55.79	520.05	0.15	216.67	55.80	520.22
J102	0.15	216.67	55.61	517.94	0.15	216.67	55.63	518.19
J103	0.15	216.67	49.91	396.85	0.15	216.67	49.91	396.88
J109	0.11	216.67	53.32	457.86	0.11	216.67	53.45	459.21
J11	0.11	216.67	58.03	596.05	0.11	216.67	58.03	596.06
J110	0.11	216.67	53.51	458.73	0.11	216.67	53.57	459.36
J111	0.11	216.67	54.11	470.95	0.11	216.67	54.07	470.41
J112	0.11	216.67	48.97	381.19	0.11	216.67	48.78	379.79
J113	0.11	216.67	40.89	304.72	0.11	216.67	40.66	303.63
J114	0.11	216.67	39.66	296.94	0.11	216.67	39.42	295.83
J115	0.11	216.67	42.18	314.79	0.11	216.67	41.93	313.48
J116	0.11	216.67	44.94	337.90	0.11	216.67	44.67	336.33
J117	0.11	216.67	43.27	322.71	0.11	216.67	43.02	321.32
J118	0.11	216.67	47.82	366.80	0.11	216.67	47.57	365.11
J119	0.11	216.67	48.96	380.02	0.11	216.67	48.67	377.86
J12	0.11	216.67	58.34	619.64	0.11	216.67	58.34	619.65
J120	0.11	216.67	47.58	363.15	0.11	216.67	47.27	361.08
J121	0.11	216.67	44.90	336.80	0.11	216.67	44.60	335.07
J122	0.11	216.67	38.48	289.58	0.11	216.67	38.16	288.15
J123	0.11	216.67	38.54	289.57	0.11	216.67	38.18	288.00
J124	0.11	216.67	45.01	337.21	0.11	216.67	44.61	334.82
J125	0.11	216.67	42.46	314.96	0.11	216.67	42.11	313.19
J129	0.11	216.67	38.14	285.65	0.11	216.67	38.03	285.16
J130	0.11	216.67	41.73	309.08	0.11	216.67	41.63	308.58
J131	0.11	216.67	38.22	286.31	0.11	216.67	38.09	285.76
J132	0.11	216.67	41.62	308.49	0.11	216.67	41.48	307.77
J133	0.11	216.67	41.13	304.88	0.11	216.67	40.81	303.32
J134	0.11	216.67	38.04	285.23	0.11	216.67	37.71	283.81
J135	0.11	216.67	38.44	287.30	0.11	216.67	38.09	285.80
J136	0.11	216.67	40.34	299.28	0.11	216.67	39.98	297.61
J15	0.07	216.67	57.84	581.27	0.07	216.67	57.85	581.29
J152	0.11	216.67	54.71	469.88	0.11	216.67	54.71	469.89
J153	0.15	216.67	54.89	496.54	0.15	216.67	54.89	496.58
J154	0.11	216.67	51.81	421.61	0.11	216.67	51.50	418.89
J155	0.11	216.67	50.67	401.74	0.11	216.67	50.26	398.43
J156	0.00	216.67	47.04	357.02	0.00	216.67	46.34	352.46
J158	0.00	216.67	57.12	540.57	0.00	216.67	57.11	540.54
J16	0.07	216.67	57.73	571.92	0.07	216.67	57.73	571.94
J162	0.00	216.67	53.52	463.80	0.00	216.67	53.65	465.20
J164	0.00	216.67	51.72	427.18	0.00	216.67	52.00	429.77
J166	0.00	216.67	46.21	353.65	0.00	216.67	46.89	358.19
J168	0.00	216.67	42.81	321.07	0.00	216.67	43.77	326.41
J17	0.07	216.67	57.18	556.73	0.07	216.67	57.18	556.75
J170	0.00	216.67	37.04	283.61	0.00	216.67	38.40	289.72
J172	0.00	216.67	54.14	478.00	0.00	216.67	54.23	479.02
J174	0.15	216.67	55.58	513.49	0.15	216.67	55.62	513.98
J176	0.15	216.67	55.46	506.60	0.15	216.67	55.48	506.74
J178	0.08	216.67	56.27	525.30	0.08	216.67	56.26	525.19
J18	0.07	216.67	57.26	568.56	0.07	216.67	57.26	568.59
J180	0.08	216.67	56.39	522.76	0.08	216.67	56.39	522.69
J182	0.08	216.67	56.96	537.38	0.08	216.67	56.96	537.33
J184	0.08	216.67	57.55	555.84	0.08	216.67	57.54	555.79
J186	0.08	216.67	56.52	537.40	0.08	216.67	56.51	537.26
J188	0.00	216.67	53.31	458.82	0.00	216.67	53.46	460.47
J19	0.10	216.67	56.16	533.84	0.10	216.67	56.16	533.86
J20	0.10	216.67	56.97	549.30	0.10	216.67	56.97	549.31
J201	0.11	216.67	33.11	262.27	0.11	216.67	37.43	284.03
J203	0.11	216.67	31.53	255.43	0.11	216.67	37.70	285.79
J205	0.11	216.67	30.38	250.79	0.11	216.67	37.47	284.70
J207	0.11	216.67	29.68	247.56	0.11	216.67	41.61	309.76
J209	0.11	216.67	29.74	247.96	0.11	216.67	40.09	299.95
J21	0.10	216.67	56.38	532.99	0.10	216.67	56.38	533.01
J211	0.11	216.67	29.50	247.12	0.11	216.67	38.83	292.25
J213	0.11	216.67	27.08	238.30	0.11	216.67	35.59	274.11
J215	0.11	216.67	26.90	237.72	0.11	216.67	34.84	270.47
J217	0.11	216.67	29.70	247.72	0.11	216.67	37.80	285.59
J219	0.11	216.67	23.96	228.09	0.11	216.67	32.24	258.14
J22	0.10	216.67	57.18	560.84	0.10	216.67	57.18	560.85
J221	0.11	216.67	27.98	242.02	0.11	216.67	36.53	280.64
J223	0.11	216.67	28.54	243.97	0.11	216.67	36.82	281.91
J225	0.11	216.67	29.06	245.74	0.11	216.67	37.04	282.55
J227	0.11	216.67	22.52	223.85	0.11	216.67	30.93	253.03
J229	0.11	216.67	24.16	228.40	0.11	216.67	32.10	256.34
J23	0.10	216.67	56.68	538.08	0.10	216.67	56.68	538.09
J231	0.11	216.67	29.15	246.09	0.11	216.67	36.49	279.54
J233	0.11	216.67	29.15	246.19	0.11	216.67	36.73	281.10
J235	0.11	216.67	21.86	221.90	0.11	216.67	29.83	248.43
J237	0.11	216.67	17.82	211.18	0.11	216.67	25.80	233.91
J239	0.11	216.67	13.59	201.44	0.11	216.67	21.56	221.03
J24	0.10	216.67	56.14	516.98	0.10	216.67	56.14	516.99
J241	0.11	216.67	17.89	211.38	0.11	216.67	25.87	234.10
J243	0.11	216.67	25.17	232.26	0.11	216.67	32.72	261.60
J245	0.11	216.67	28.54	243.68	0.11	216.67	37.38	284.26
J247	0.11	216.67	26.59	236.98	0.11	216.67	34.15	268.05
J249	0.11	216.67	28.06	242.20	0.11	216.67	35.55	275.02
J25	0.10	216.67	55.75	507.61	0.10	216.67	55.75	507.62
J251	0.11	216.67	27.09	238.76	0.11	216.67	34.57	270.15
J253	0.11	216.67	23.29	226.24	0.11	216.67	30.76	252.80
J255	0.11	216.67	27.53	240.14	0.11	216.67	34.94	271.46
J257	0.11	216.67	27.58	240.35	0.11	216.67	34.88	271.36
J259	0.11	216.67	18.58	213.06	0.11	216.67	25.96	234.66
J26	0.10	216.67	55.77	505.95	0.10	216.67	55.77	505.96
J261	0.11	216.67	19.80	216.23	0.11	216.67	27.20	239.06
J263	0.11	216.67	25.01	231.90	0.11	216.67	32.46	260.88
J265	0.11	216.67	26.02	234.98	0.11	216.67	33.47	264.61
J267	0.11	216.67	26.40	236.22	0.11	216.67	33.83	266.23
J269	0.11	216.67	20.04	216.89	0.11	216.67	27.50	240.25
J27	0.10	216.67	56.06	511.26	0.10	216.67	56.06	511.27
J271	0.11	216.67	19.68	215.92	0.11	216.67	27.14	239.02
J273	0.11	216.67	26.63	237.21	0.11	216.67	34.10	268.05
J275	0.11	216.67	26.46	236.64	0.11	216.67	33.93	267.34
J277	0.11	216.67	26.31	236.19	0.11	216.67	33.78	266.81
J279	0.11	216.67	25.06	231.99	0.11	216.67	32.53	260.95
J28	0.10	216.67	55.88	507.38	0.10	216.67	55.88	507.39
J281	0.11	216.67	24.73	230.92	0.11	216.67	32.19	259.51
J283	0.11	216.67	20.29	217.54	0.11	216.67	27.76	240.10
J285	0.11	216.67	17.77	210.89	0.11	216.67	25.23	232.57
J287	0.11	216.67	21.75	221.74	0.11	216.67	29.22	247.10
J289	0.11	216.67	18.97	214.01	0.11	216.67	26.43	236.58
J29	0.10	216.67	55.98	510.34	0.10	216.67	55.98	510.36
J291	0.11	216.67	25.02	231.93	0.11	216.67	32.50	261.14
J293	0.11	216.67	25.28	232.72	0.11	216.67	32.75	262.04
J295	0.11	216.67	24.67	230.80	0.11	216.67	32.16	259.67
J297	0.11	216.67	19.63	215.78	0.11	216.67	27.11	239.00
J299	0.11	216.67	24.11	228.91	0.11	216.67	31.59	256.74
J30	0.07	216.67	56.31	522.05	0.07	216.67	56.31	522.06
J301	0.11	216.67	18.68	213.27	0.11	216.67	26.15	235.47
J303	0.00	216.67	24.30	229.52	0.00	216.67	31.80	258.00
J305	0.00	216.67	23.57	227.13	0.00	216.67	31.08	254.64
J307	0.11	216.67	23.42	226.77	0.11	216.67	30.93	254.06
J309	0.11	216.67	14.68	203.48	0.11	216.67	22.20	223.01
J31	0.07	216.67	56.52	525.20	0.07	216.67	56.52	525.21
J311	0.11	216.67	22.40	223.68	0.11	216.67	29.92	249.98
J313	0.11	216.67	12.56	198.81	0.11	216.67	20.08	217.01
J315	0.11	216.67	22.78	224.78	0.11	216.67	30.30	251.36
J317	0.11	216.67	21.88	222.10	0.11	216.67	29.40	247.74
J319	0.11	216.67	21.65	221.40	0.11	216.67	29.18	246.62
J32	0.07	216.67	56.81	537.32	0.07	216.67	56.81	537.34
J321	0.11	216.67	22.62	224.24	0.11	216.67	30.16	250.34
J323	0.11	216.67	22.06	222.61	0.11	216.67	29.58	248.32
J325	0.11	216.67	21.78	221.80	0.11	216.67	29.32	247.13
J327	0.11	216.67	21.22	220.17	0.11	216.67	28.75	244.90
J329	0.11	216.67	19.29	214.88	0.11	216.67	26.83	237.74
J33	0.07	216.67	57.38	550.81	0.07	216.67	57.38	550.82
J331	0.11	216.67	20.50	218.14	0.11	216.67	28.04	242.00
J333	0.11	216.67	24.40	229.62	0.11	216.67	31.95	257.50
J335	0.11	216.67	23.38	226.49	0.11	216.67	30.92	253.31
J337	0.11	216.67	22.94	225.16	0.11	216.67	30.47	251.56
J339	0.11	216.67	22.35	223.39	0.11	216.67	29.89	248.97
J34	0.07	216.67	57.91	575.62	0.07	216.67	57.91	575.64
J341	0.11	216.67	22.09	222.60	0.11	216.67	29.62	247.85
J343	0.11	216.67	16.29	207.41	0.11	216.67	23.82	227.76
J345	0.11	216.67	19.59	215.69	0.11	216.67	27.12	238.57
J347	0.11	216.67	17.55	210.51	0.11	216.67	25.09	231.68
J349	0.11	216.67	16.92	208.98	0.11	216.67	24.46	229.62
J35	0.07	216.67	58.18	588.65	0.07	216.67	58.19	588.66
J351	0.11	216.67	17.55	210.52	0.11	216.67	25.08	231.56
J353	0.11	216.67	19.43	215.28	0.11	216.67	26.97	237.89
J355	0.11	216.67	14.64	203.68	0.11	216.67	22.18	222.81
J357	0.11	216.67	21.99	222.30	0.11	216.67	29.53	247.35
J359	0.11	216.67	21.39	220.60	0.11	216.67	28.92	245.18
J36	0.07	216.67	58.93	618.89	0.07	216.67	58.93	618.91
J361	0.11	216.67	21.44	220.77	0.11	216.67	28.98	245.49
J363	0.11	216.67	-8.97	165.39	0.11	216.67	2.01	180.66
J365	0.11	216.67	-12.56	161.32	0.11	216.67	-1.27	175.86
J367	0.11	216.67	29.65	247.64	0.11	216.67	39.65	297.23
J369	0.11	216.67	-0.24	176.16	0.11	216.67	7.19	188.53
J37	0.08	216.67	56.94	554.56	0.08	216.67	56.94	554.56
J371	0.11	216.67	23.56	227.11	0.11	216.67	30.99	253.86
J38	0.08	216.67	57.19	560.11	0.08	216.67	57.19	560.10
J39	0.08	216.67	56.78	545.53	0.08	216.67	56.78	545.50
J40	0.11	216.67	58.20	610.92	0.11	216.67	58.20	610.93
J41	0.11	216.67	55.31	499.26	0.11	216.67	55.26	498.61
J42	0.11	216.67	54.70	482.46	0.11	216.67	54.61	481.50
J43	0.11	216.67	53.05	446.61	0.11	216.67	52.86	444.68
J44	0.11	216.67	51.53	416.27	0.11	216.67	51.19	413.37
J45	0.11	216.67	48.36	371.96	0.11	216.67	47.77	367.78
J46	0.11	216.67	58.10	603.33	0.11	216.67	58.10	603.33
J48	0.11	216.67	58.03	597.57	0.11	216.67	58.03	597.58
J50	0.11	216.67	50.93	407.64	0.11	216.67	50.93	407.65
J51	0.11	216.67	50.63	401.45	0.11	216.67	50.63	401.45
J52	0.11	216.67	48.26	369.00	0.11	216.67	48.26	369.00
J53	0.11	216.67	47.58	360.51	0.11	216.67	47.58	360.52
J55	0.11	216.67	50.81	396.87	0.11	216.67	50.81	396.87
J56	0.11	216.67	46.74	349.26	0.11	216.67	46.74	349.26
J57	0.11	216.67	48.83	371.15	0.11	216.67	48.83	371.15
J58	0.11	216.67	47.50	357.09	0.11	216.67	47.50	357.10
J59	0.11	216.67	43.81	323.53	0.11	216.67	43.82	323.53
J60	0.11	216.67	39.89	295.05	0.11	216.67	39.89	295.05
J61	0.11	216.67	39.48	292.92	0.11	216.67	39.49	292.92
J62	0.11	216.67	43.56	321.49	0.11	216.67	43.56	321.49
J63	0.11	216.67	43.99	324.77	0.11	216.67	43.99	324.78
J64	0.11	216.67	40.51	299.17	0.11	216.67	40.51	299.18
J65	0.11	216.67	40.59	299.67	0.11	216.67	40.60	299.67
J66	0.11	216.67	44.81	331.87	0.11	216.67	44.81	331.87
J67	0.11	216.67	45.45	337.24	0.11	216.67	45.45	337.25
J68	0.11	216.67	40.97	302.04	0.11	216.67	40.97	302.04
J69	0.11	216.67	41.01	302.69	0.11	216.67	41.01	302.70
J70	0.11	216.67	44.49	329.66	0.11	216.67	44.49	329.67
J71	0.11	216.67	45.01	334.43	0.11	216.67	45.01	334.44
J72	0.11	216.67	41.40	305.76	0.11	216.67	41.40	305.77
J73	0.11	216.67	41.58	306.65	0.11	216.67	41.59	306.65
J74	0.11	216.67	44.84	332.35	0.11	216.67	44.84	332.35
J75	0.10	216.67	47.72	362.93	0.10	216.67	47.72	362.93
J76	0.10	216.67	52.17	424.18	0.10	216.67	52.17	424.19
J77	0.10	216.67	46.94	354.97	0.10	216.67	46.94	354.98
J78	0.07	216.67	52.51	431.52	0.07	216.67	52.51	431.53
J79	0.07	216.67	48.92	375.89	0.07	216.67	48.92	375.90
J80	0.15	216.67	44.78	335.16	0.15	216.67	44.78	335.18
J81	0.15	216.67	55.31	508.75	0.15	216.67	55.32	508.88
J82	0.15	216.67	54.73	490.98	0.15	216.67	54.74	491.07
J83	0.15	216.67	55.51	508.04	0.15	216.67	55.51	508.09
J84	0.15	216.67	55.56	512.41	0.15	216.67	55.56	512.44
J85	0.15	216.67	38.73	290.34	0.15	216.67	38.73	290.35
J86	0.15	216.67	35.05	270.05	0.15	216.67	35.06	270.06
J87	0.15	216.67	35.06	270.16	0.15	216.67	35.06	270.17
J88	0.15	216.67	39.15	292.85	0.15	216.67	39.16	292.86
J89	0.15	216.67	56.38	535.81	0.15	216.67	56.38	535.85
J90	0.15	216.67	48.04	369.70	0.15	216.67	48.04	369.72
J91	0.15	216.67	54.81	485.70	0.15	216.67	54.82	485.73
J92	0.15	216.67	44.44	332.05	0.15	216.67	44.45	332.07
J93	0.15	216.67	41.41	308.37	0.15	216.67	41.41	308.39
J94	0.08	216.67	55.84	506.78	0.08	216.67	55.84	506.76
J95	0.08	216.67	56.04	507.16	0.08	216.67	56.04	507.14
J96	0.08	216.67	56.53	525.04	0.08	216.67	56.53	525.02
J97	0.08	216.67	47.20	356.64	0.08	216.67	47.20	356.62
J98	0.00	216.67	56.72	532.70	0.00	216.67	56.72	532.67

Sufficient hydrant coverage to meet the RFF.

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Table C-6: Model Results - AVDY+FF (Reliability Analysis Scenarios 6 to 7)

	Break Scenario 6				Break Scenario 7			
Junction ID	Base Demand (L/s)	Required Fire Flow (L/s)	Residual Pressure (psi)	Available Fire Flow @ Residual 20 psi (L/s)	Base Demand (L/s)	Required Fire Flow (L/s)	Residual Pressure (psi)	Available Fire Flow @ Residual 20 psi (L/s)
Maximum	*0.15*	*216.67*	*59.58*	*658.83*	*0.15*	*216.67*	*59.58*	*658.83*
Minimum	*0.00*	*216.67*	*7.91*	*190.81*	*0.00*	*216.67*	*7.91*	*190.80*
J01	0.07	216.67	57.58	594.77	0.07	216.67	57.58	594.77
J02	0.00	216.67	58.54	622.35	0.00	216.67	58.54	622.35
J05	0.07	216.67	59.50	658.54	0.07	216.67	59.50	658.54
J06	0.07	216.67	59.58	658.83	0.07	216.67	59.58	658.83
J07	0.11	216.67	59.32	636.59	0.11	216.67	59.32	636.59
J08	0.11	216.67	58.78	614.75	0.11	216.67	58.78	614.75
J09	0.11	216.67	58.06	601.58	0.11	216.67	58.06	601.58
J10	0.11	216.67	58.17	597.17	0.11	216.67	58.17	597.17
J100	0.15	216.67	50.47	404.04	0.15	216.67	50.47	404.04
J101	0.15	216.67	55.80	520.48	0.15	216.67	55.80	520.48
J102	0.15	216.67	55.64	518.66	0.15	216.67	55.64	518.66
J103	0.15	216.67	49.91	396.89	0.15	216.67	49.91	396.89
J109	0.11	216.67	53.73	466.34	0.11	216.67	53.73	466.34
J11	0.11	216.67	58.03	596.06	0.11	216.67	58.03	596.06
J110	0.11	216.67	53.62	460.95	0.11	216.67	53.62	460.95
J111	0.11	216.67	54.15	472.16	0.11	216.67	54.15	472.16
J112	0.11	216.67	49.45	387.99	0.11	216.67	49.45	387.99
J113	0.11	216.67	41.51	309.33	0.11	216.67	41.51	309.33
J114	0.11	216.67	40.36	301.73	0.11	216.67	40.36	301.73
J115	0.11	216.67	42.96	321.10	0.11	216.67	42.96	321.10
J116	0.11	216.67	45.78	346.40	0.11	216.67	45.78	346.40
J117	0.11	216.67	44.07	329.66	0.11	216.67	44.07	329.66
J118	0.11	216.67	48.56	376.40	0.11	216.67	48.56	376.40
J119	0.11	216.67	50.01	395.10	0.11	216.67	50.01	395.10
J12	0.11	216.67	58.34	619.65	0.11	216.67	58.34	619.65
J120	0.11	216.67	48.67	376.87	0.11	216.67	48.67	376.87
J121	0.11	216.67	45.91	346.95	0.11	216.67	45.91	346.95
J122	0.11	216.67	39.64	296.97	0.11	216.67	39.64	296.97
J123	0.11	216.67	39.88	298.17	0.11	216.67	39.88	298.17
J124	0.11	216.67	46.71	354.53	0.11	216.67	46.71	354.53
J125	0.11	216.67	43.75	325.52	0.11	216.67	43.75	325.52
J129	0.11	216.67	38.37	287.02	0.11	216.67	38.37	287.02
J130	0.11	216.67	41.92	310.53	0.11	216.67	41.92	310.53
J131	0.11	216.67	38.49	287.94	0.11	216.67	38.49	287.94
J132	0.11	216.67	41.95	310.99	0.11	216.67	41.95	310.99
J133	0.11	216.67	42.38	314.11	0.11	216.67	42.38	314.11
J134	0.11	216.67	39.34	293.10	0.11	216.67	39.34	293.09
J135	0.11	216.67	39.82	295.81	0.11	216.67	39.82	295.81
J136	0.11	216.67	41.79	309.43	0.11	216.67	41.79	309.43
J15	0.07	216.67	57.85	581.29	0.07	216.67	57.85	581.29
J152	0.11	216.67	54.71	469.89	0.11	216.67	54.71	469.89
J153	0.15	216.67	54.89	496.60	0.15	216.67	54.89	496.60
J154	0.11	216.67	52.97	444.47	0.11	216.67	52.97	444.47
J155	0.11	216.67	52.47	433.48	0.11	216.67	52.47	433.48
J156	0.00	216.67	51.18	414.23	0.00	216.67	51.18	414.23
J158	0.00	216.67	57.12	540.58	0.00	216.67	57.12	540.58
J16	0.07	216.67	57.73	571.95	0.07	216.67	57.73	571.95
J162	0.00	216.67	53.95	473.27	0.00	216.67	53.95	473.27
J164	0.00	216.67	53.05	452.02	0.00	216.67	53.05	452.02
J166	0.00	216.67	50.91	414.59	0.00	216.67	50.91	414.59
J168	0.00	216.67	50.35	402.81	0.00	216.67	50.35	402.82
J17	0.07	216.67	57.18	556.75	0.07	216.67	57.18	556.75
J170	0.00	216.67	49.17	390.89	0.00	216.67	49.17	390.90
J172	0.00	216.67	54.39	483.82	0.00	216.67	54.39	483.82
J174	0.15	216.67	55.66	515.40	0.15	216.67	55.66	515.40
J176	0.15	216.67	55.48	506.93	0.15	216.67	55.48	506.93
J178	0.08	216.67	56.27	525.39	0.08	216.67	56.27	525.39
J18	0.07	216.67	57.26	568.59	0.07	216.67	57.26	568.59
J180	0.08	216.67	56.39	522.81	0.08	216.67	56.39	522.81
J182	0.08	216.67	56.96	537.41	0.08	216.67	56.96	537.41
J184	0.08	216.67	57.55	555.85	0.08	216.67	57.55	555.85
J186	0.08	216.67	56.52	537.56	0.08	216.67	56.52	537.56
J188	0.00	216.67	53.88	471.10	0.00	216.67	53.88	471.11
J19	0.10	216.67	56.16	533.87	0.10	216.67	56.16	533.87
J20	0.10	216.67	56.97	549.32	0.10	216.67	56.97	549.32
J201	0.11	216.67	49.91	393.92	0.11	216.67	49.91	393.93
J203	0.11	216.67	49.27	385.88	0.11	216.67	49.28	385.89
J205	0.11	216.67	48.54	377.03	0.11	216.67	48.54	377.04
J207	0.11	216.67	50.60	400.47	0.11	216.67	50.60	400.47
J209	0.11	216.67	49.73	389.88	0.11	216.67	49.72	389.88
J21	0.10	216.67	56.38	533.00	0.10	216.67	56.38	533.00
J211	0.11	216.67	48.81	378.64	0.11	216.67	48.81	378.63
J213	0.11	216.67	45.84	345.83	0.11	216.67	45.84	345.82
J215	0.11	216.67	45.39	341.85	0.11	216.67	45.39	341.85
J217	0.11	216.67	48.20	369.60	0.11	216.67	48.20	369.60
J219	0.11	216.67	42.48	316.07	0.11	216.67	42.48	316.07
J22	0.10	216.67	57.18	560.84	0.10	216.67	57.18	560.84
J221	0.11	216.67	46.78	360.47	0.11	216.67	46.77	360.45
J223	0.11	216.67	47.19	364.03	0.11	216.67	47.19	364.01
J225	0.11	216.67	47.58	366.34	0.11	216.67	47.57	366.31
J227	0.11	216.67	41.26	308.50	0.11	216.67	41.25	308.49
J229	0.11	216.67	42.67	313.58	0.11	216.67	42.67	313.57
J23	0.10	216.67	56.68	538.09	0.10	216.67	56.68	538.09
J231	0.11	216.67	47.40	364.60	0.11	216.67	47.40	364.59
J233	0.11	216.67	47.47	366.19	0.11	216.67	47.47	366.14
J235	0.11	216.67	40.37	301.62	0.11	216.67	40.36	301.60
J237	0.11	216.67	36.33	277.40	0.11	216.67	36.33	277.38
J239	0.11	216.67	32.10	257.07	0.11	216.67	32.09	257.05
J24	0.10	216.67	56.14	516.99	0.10	216.67	56.14	516.99
J241	0.11	216.67	36.41	277.56	0.11	216.67	36.40	277.54
J243	0.11	216.67	40.06	301.83	0.11	216.67	39.87	300.87
J245	0.11	216.67	47.51	364.84	0.11	216.67	47.51	364.82
J247	0.11	216.67	43.39	326.47	0.11	216.67	43.28	325.84
J249	0.11	216.67	46.08	351.83	0.11	216.67	46.11	352.07
J25	0.10	216.67	55.75	507.62	0.10	216.67	55.75	507.62
J251	0.11	216.67	44.65	338.40	0.11	216.67	44.72	338.80
J253	0.11	216.67	40.70	306.15	0.11	216.67	40.77	306.52
J255	0.11	216.67	45.44	344.06	0.11	216.67	45.48	344.31
J257	0.11	216.67	45.56	345.86	0.11	216.67	45.59	346.07
J259	0.11	216.67	36.39	278.69	0.11	216.67	36.44	278.89
J26	0.10	216.67	55.77	505.96	0.10	216.67	55.77	505.96
J261	0.11	216.67	37.40	284.80	0.11	216.67	37.46	285.08
J263	0.11	216.67	42.33	320.72	0.11	216.67	42.41	321.16
J265	0.11	216.67	43.45	327.00	0.11	216.67	43.52	327.41
J267	0.11	216.67	44.00	331.42	0.11	216.67	44.07	331.78
J269	0.11	216.67	37.46	285.63	0.11	216.67	37.54	285.95
J27	0.10	216.67	56.06	511.27	0.10	216.67	56.06	511.27
J271	0.11	216.67	36.90	282.61	0.11	216.67	36.98	282.97
J273	0.11	216.67	43.96	332.69	0.11	216.67	44.04	333.15
J275	0.11	216.67	43.54	329.38	0.11	216.67	43.63	329.92
J277	0.11	216.67	43.03	325.49	0.11	216.67	43.14	326.11
J279	0.11	216.67	41.91	316.53	0.11	216.67	42.01	317.09
J28	0.10	216.67	55.88	507.39	0.10	216.67	55.88	507.39
J281	0.11	216.67	41.74	315.60	0.11	216.67	41.84	316.11
J283	0.11	216.67	37.12	280.00	0.11	216.67	37.22	280.44
J285	0.11	216.67	34.45	270.02	0.11	216.67	34.56	270.49
J287	0.11	216.67	38.20	291.31	0.11	216.67	38.33	291.90
J289	0.11	216.67	35.69	276.19	0.11	216.67	35.80	276.66
J29	0.10	216.67	55.98	510.35	0.10	216.67	55.98	510.35
J291	0.11	216.67	40.49	306.79	0.11	216.67	40.66	307.64
J293	0.11	216.67	41.52	313.71	0.11	216.67	41.66	314.43
J295	0.11	216.67	39.02	296.81	0.11	216.67	39.23	297.81
J297	0.11	216.67	35.64	276.02	0.11	216.67	35.79	276.64
J299	0.11	216.67	40.86	308.60	0.11	216.67	40.97	309.16
J30	0.07	216.67	56.31	522.06	0.07	216.67	56.31	522.06
J301	0.11	216.67	35.88	276.68	0.11	216.67	35.97	277.04
J303	0.00	216.67	37.90	289.66	0.00	216.67	38.14	290.76
J305	0.00	216.67	33.99	267.71	0.00	216.67	19.82	216.18
J307	0.11	216.67	32.59	261.06	0.11	216.67	21.32	220.44
J309	0.11	216.67	22.74	224.59	0.11	216.67	15.43	205.34
J31	0.07	216.67	56.52	525.21	0.07	216.67	56.52	525.21
J311	0.11	216.67	29.13	246.55	0.11	216.67	23.35	226.46
J313	0.11	216.67	19.34	215.02	0.11	216.67	14.94	204.23
J315	0.11	216.67	27.05	238.66	0.11	216.67	26.28	235.91
J317	0.11	216.67	25.20	232.33	0.11	216.67	26.41	236.38
J319	0.11	216.67	23.66	227.32	0.11	216.67	27.59	240.41
J32	0.07	216.67	56.81	537.34	0.07	216.67	56.81	537.34
J321	0.11	216.67	23.11	225.61	0.11	216.67	29.86	248.81
J323	0.11	216.67	25.68	233.85	0.11	216.67	26.60	236.94
J325	0.11	216.67	23.36	226.40	0.11	216.67	28.48	243.64
J327	0.11	216.67	21.49	220.89	0.11	216.67	29.02	245.66
J329	0.11	216.67	18.25	212.24	0.11	216.67	28.42	243.27
J33	0.07	216.67	57.38	550.82	0.07	216.67	57.38	550.82
J331	0.11	216.67	18.44	212.72	0.11	216.67	30.29	250.33
J333	0.11	216.67	20.57	218.32	0.11	216.67	34.92	270.89
J335	0.11	216.67	22.83	224.72	0.11	216.67	31.51	255.45
J337	0.11	216.67	22.96	225.15	0.11	216.67	30.58	251.67
J339	0.11	216.67	22.16	222.77	0.11	216.67	30.33	250.40
J34	0.07	216.67	57.91	575.64	0.07	216.67	57.91	575.64
J341	0.11	216.67	21.96	222.17	0.11	216.67	30.02	249.11
J343	0.11	216.67	16.18	207.26	0.11	216.67	24.09	228.47
J345	0.11	216.67	19.44	215.31	0.11	216.67	27.54	239.83
J347	0.11	216.67	17.41	210.22	0.11	216.67	25.50	232.87
J349	0.11	216.67	16.78	208.73	0.11	216.67	24.86	230.79
J35	0.07	216.67	58.18	588.66	0.07	216.67	58.18	588.66
J351	0.11	216.67	17.41	210.25	0.11	216.67	25.49	232.73
J353	0.11	216.67	19.30	214.96	0.11	216.67	27.36	239.07
J355	0.11	216.67	14.50	203.49	0.11	216.67	22.59	223.94
J357	0.11	216.67	21.91	222.02	0.11	216.67	29.86	248.36
J359	0.11	216.67	21.40	220.60	0.11	216.67	29.10	245.59
J36	0.07	216.67	58.93	618.91	0.07	216.67	58.93	618.91
J361	0.11	216.67	21.56	221.07	0.11	216.67	29.00	245.30
J363	0.11	216.67	11.36	197.23	0.11	216.67	11.36	197.23
J365	0.11	216.67	7.91	190.81	0.11	216.67	7.91	190.80
J367	0.11	216.67	49.41	386.04	0.11	216.67	49.41	386.03
J369	0.11	216.67	17.18	209.60	0.11	216.67	17.26	209.79
J37	0.08	216.67	56.94	554.56	0.08	216.67	56.94	554.56
J371	0.11	216.67	40.98	308.52	0.11	216.67	41.06	308.89
J38	0.08	216.67	57.19	560.10	0.08	216.67	57.19	560.10
J39	0.08	216.67	56.78	545.53	0.08	216.67	56.78	545.53
J40	0.11	216.67	58.20	610.93	0.11	216.67	58.20	610.93
J41	0.11	216.67	55.38	501.51	0.11	216.67	55.38	501.51
J42	0.11	216.67	54.84	486.81	0.11	216.67	54.84	486.81
J43	0.11	216.67	53.60	459.18	0.11	216.67	53.60	459.18
J44	0.11	216.67	52.86	441.74	0.11	216.67	52.86	441.74
J45	0.11	216.67	51.64	421.27	0.11	216.67	51.64	421.27
J46	0.11	216.67	58.10	603.33	0.11	216.67	58.10	603.33
J48	0.11	216.67	58.03	597.57	0.11	216.67	58.03	597.57
J50	0.11	216.67	50.93	407.65	0.11	216.67	50.93	407.65
J51	0.11	216.67	50.63	401.45	0.11	216.67	50.63	401.45
J52	0.11	216.67	48.26	369.00	0.11	216.67	48.26	369.00
J53	0.11	216.67	47.58	360.52	0.11	216.67	47.58	360.52
J55	0.11	216.67	50.81	396.87	0.11	216.67	50.81	396.87
J56	0.11	216.67	46.74	349.26	0.11	216.67	46.74	349.26
J57	0.11	216.67	48.83	371.15	0.11	216.67	48.83	371.15
J58	0.11	216.67	47.50	357.10	0.11	216.67	47.50	357.10
J59	0.11	216.67	43.82	323.53	0.11	216.67	43.82	323.53
J60	0.11	216.67	39.89	295.05	0.11	216.67	39.89	295.05
J61	0.11	216.67	39.49	292.92	0.11	216.67	39.49	292.92
J62	0.11	216.67	43.56	321.49	0.11	216.67	43.56	321.49
J63	0.11	216.67	43.99	324.78	0.11	216.67	43.99	324.78
J64	0.11	216.67	40.51	299.18	0.11	216.67	40.51	299.18
J65	0.11	216.67	40.60	299.67	0.11	216.67	40.60	299.67
J66	0.11	216.67	44.81	331.87	0.11	216.67	44.81	331.87
J67	0.11	216.67	45.45	337.25	0.11	216.67	45.45	337.25
J68	0.11	216.67	40.97	302.04	0.11	216.67	40.97	302.04
J69	0.11	216.67	41.01	302.70	0.11	216.67	41.01	302.70
J70	0.11	216.67	44.49	329.67	0.11	216.67	44.49	329.67
J71	0.11	216.67	45.01	334.43	0.11	216.67	45.01	334.43
J72	0.11	216.67	41.40	305.77	0.11	216.67	41.40	305.77
J73	0.11	216.67	41.58	306.65	0.11	216.67	41.58	306.65
J74	0.11	216.67	44.84	332.35	0.11	216.67	44.84	332.35
J75	0.10	216.67	47.72	362.93	0.10	216.67	47.72	362.93
J76	0.10	216.67	52.17	424.19	0.10	216.67	52.17	424.19
J77	0.10	216.67	46.94	354.98	0.10	216.67	46.94	354.98
J78	0.07	216.67	52.51	431.53	0.07	216.67	52.51	431.53
J79	0.07	216.67	48.92	375.90	0.07	216.67	48.92	375.90
J80	0.15	216.67	44.78	335.18	0.15	216.67	44.78	335.18
J81	0.15	216.67	55.32	509.04	0.15	216.67	55.32	509.04
J82	0.15	216.67	54.74	491.15	0.15	216.67	54.74	491.15
J83	0.15	216.67	55.51	508.13	0.15	216.67	55.51	508.13
J84	0.15	216.67	55.56	512.45	0.15	216.67	55.56	512.45
J85	0.15	216.67	38.73	290.35	0.15	216.67	38.73	290.35
J86	0.15	216.67	35.05	270.05	0.15	216.67	35.05	270.05
J87	0.15	216.67	35.06	270.17	0.15	216.67	35.06	270.17
J88	0.15	216.67	39.16	292.86	0.15	216.67	39.16	292.86
J89	0.15	216.67	56.38	535.86	0.15	216.67	56.38	535.86
J90	0.15	216.67	48.04	369.72	0.15	216.67	48.04	369.72
J91	0.15	216.67	54.82	485.74	0.15	216.67	54.82	485.74
J92	0.15	216.67	44.45	332.07	0.15	216.67	44.45	332.07
J93	0.15	216.67	41.41	308.39	0.15	216.67	41.41	308.39
J94	0.08	216.67	55.84	506.78	0.08	216.67	55.84	506.78
J95	0.08	216.67	56.04	507.16	0.08	216.67	56.04	507.16
J96	0.08	216.67	56.53	525.05	0.08	216.67	56.53	525.05
J97	0.08	216.67	47.20	356.63	0.08	216.67	47.20	356.63
J98	0.00	216.67	56.72	532.71	0.00	216.67	56.72	532.71

Sufficient hydrant coverage to meet the RFF.

APPENDIX C

SANITARY

Engineers, Planners & Landscape Architects

M E M O R A N D U M

See markups on:
- Figure 1
- "Sanitary Sewer Design Sheet, South Nepean Collector - Phase 2 & 3" (Dec 5, 2018 version)
- "Sanitary Sewer Design Sheet, South Nepean Collector - Phase 2 & 3" (August 20, 2015 version)

DATE: MAY 30, 2019

TO: JOSÉE VALLEE – CITY OF OTTAWA

FROM: CONRAD STANG – NOVATECH

RE: STRANDHERD DRIVE WIDENING PROJECT
SOUTH NEPEAN COLLECTOR PHASE 3: SANITARY FLOW CALCULATIONS

CC: EDSON DONNELLY – NOVATECH

1.0 PURPOSE

This memorandum provides the sanitary sewer flow calculations and design sheet for Phase 3 of the proposed South Nepean Collector (SNC), as part of the Strandherd Drive Widening Project. Sanitary design flows have been estimated for both current-day operational flows and future development peak design flows. They are based on the latest available planning information for the vacant lands within the SNC sewershed.

2.0 BACKGROUND

In January 1998, the Master Servicing Study for the South Nepean Urban Area provided a conceptual plan for water, wastewater and stormwater infrastructure. The preferred alternative for wastewater servicing was an east/west trunk sewer alignment that was to be completed in several phases. The proposed sanitary trunk sewer was initially called the Jock River Collector, but was renamed the South Nepean Collector during the original functional design study completed in 2003.

Phase 1 of the South Nepean Collector was completed in 2005 and currently terminates at a 2400mm maintenance hole located east of Longfields Drive, north of Bren-Maur Road. Phase 2 was completed in 2016 and currently terminates at a 2400mm maintenance hole located at the intersection of Strandherd Drive and Fraser Fields Way.

Phase 3 will extend the trunk sewer along Strandherd Drive to the intersection of Kennevale Drive. Here it will connect with the existing sanitary trunk sewer that was constructed as part of the 2014 works to improve Strandherd Drive and develop the CitiGate Lands.

The sanitary sewer flows were previously documented in the *South Nepean Collector – Functional Design Report and Update* (Dillon, 2012). Novatech (2016) completed a Hydraulics Review / Assessment of the sanitary flows presented in the Dillion Report (attached). This was based on the latest planning information for the vacant lands within the SNC sewershed. The results of the Hydraulics Review / Assessment (Novatech, 2016) were similar to the results from the Dillion (2012) analysis.

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3.0 DESIGN PARAMETERS AND POPULATION ESTIMATES

3.1 Design Parameters

The sanitary design flow were calculated using the parameters from the City of Ottawa Sewer Design Guidelines (October 2012), revised per Technical Bulletin ISTB-2018-01 (March 2018). These parameters are summarized in **Table 1** and **Table 2**.

Table 1: Peak Design Flow Parameters

Land Use	Average Daily Flow	Peaking Factor	Peak Extraneous Flows
Residential	280 L/cap/day	Harmon Equation, K=0.8 (1.6 min – 3.2 max)	0.33 L/s/ha
Commercial	28,000 L/ha/day	1.0 – 1.5*	
Institutional	28,000 L/ha/day	1.0 – 1.5*	
Other†	0 L/ha/day	N/A	

**Peak Factor = 1.5 if contributing area is >20%; Peak Factor = 1.0 if contributing area is <20%*
†Open Space, Arterial ROW, SWM Blocks, etc. with no sanitary flow contribution (extraneous flow only)

Table 2: Operational Design Flow Parameters

Land Use	Average Daily Flow	Peaking Factor	Peak Extraneous Flows
Residential	200 L/cap/day	Harmon Equation, K=0.6 (1.2 min – 2.4 max)	0.30 L/s/ha
Commercial	17,000 L/ha/day	1.0 (non-coincident peak)	
Institutional	17,000 L/ha/day	1.0 (non-coincident peak)	

**There are no industrial areas identified within the tributary area.*

Harmon Equation $= 1 + \frac{14}{4+\left(\frac{P}{1000}\right)^{\frac{1}{2}}} \times K$

Where:
P = Population
K = Correction Factor:
- Peak Flow = 0.8
- Operational = 0.6

3.2 Land Use Designations & Population Estimates

Population densities and unit counts for future residential development are based on the Novatech (2016) Hydraulics Review / Assessment; refer to **Table 3**. They are based on the concept plans provided by the developers of the future residential areas.

Table 3: Residential Land Use Population Densities

Residential Land Use	Units per ha	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

The land use designations shown in **Table 4** have been applied for the areas within Phases 2 & 3 of the SNC (Node 70 to 130). The Hydraulics Analysis / Review delineated the sewershed areas and land use designations using aerial photos (existing development) and conceptual site plans (future development).

Table 4: Land Use Designations

Land Use Designation	
Secondary Plan	**SNC Design**
Residential	Residential (Low / Medium / High Density)
Institutional / Office	Institutional
Commercial	Commercial
Recreational	
Business Park	
Prestige Business Park	
Park/Open Space Area	Other*
Ex. Snow Disposal Facility (future commercial)	
Stormwater Management Facility	
Conservation Lands	
Arterial Right-of-Ways	

** No sanitary flow contribution - extraneous flows (inflow/infiltration) only.*

The overall residential population estimate and sewershed area for Phases 2 and 3 of the SNC is provided in **Table 5** below. It is assumed that the snow dump facility at the Stranderd Drive and McKenna Casey Drive will ultimately be re-zoned for commercial development.

Table 5: Population Estimates and Areas

Existing / Future	Estimated Population / Area	Novatech (2015)
Existing	Estimated Population	6,944 persons
	Gross Residential Area	60.09 ha
	Gross Commercial / Institutional Area	64.37 ha
	Total Sewershed Area	124.5 ha
Future (full service)	Estimated Population	27,312 persons
	Gross Residential Area	248.48 ha
	Gross Commercial / Institutional Area	228.82 ha
	Total Sewershed Area	477.3 ha

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4.0 SANITARY DESIGN FLOWS

The sanitary flow allocations for Phases 2 and 3 of the SNC are provided in **Table 6**. The corresponding sanitary drainage area plan is provided as **Figure 1**. Sanitary sewer flow calculations for Phases 2 and 3 and detailed sanitary sewer design sheets for Phase 3 are attached to this memorandum.

The estimated sanitary design flows from Phase 3 of the SNC (entering Node 90) are as follows:

- Present-Day Operational Design Flows (Theoretical) = 55.1 L/s
- Future Peak Design Flows = 282.5 L/s

The outlet for Phase 3 of the SNC is the existing 900mm outlet pipe at the 2400mm maintenance hole (Node 90) located at the intersection of Strandherd Drive and Fraser Fields Way. Given a minimum design slope of 0.10%, this 900mm sanitary trunk sewer would have a full flow capacity of 597.2 L/s. Therefore, the downstream sanitary trunk sewer would be at 64% capacity, based on the future peak design flow being 282.5 L/s.

ATTACHMENTS:

- Figure 1: Sanitary Drainage Areas and Land Use
- Sanitary Sewer Flow Calculations
- Sanitary Sewer Design Sheets (Phase 3)
- South Nepean Collector Phase 2: Hydraulics Review / Assessment (Novatech, 2016)
- Excerpts from Dillion (2012)

Table 6: Updated Allocation of Commercial, Institutional and Residential Demands to Phases 2 & 3 (Nodes 70 – 130) of the SNC by Collection Area

Collection Area	Upstream Node	Existing / Proposed Development	Existing / Proposed Land Use	Area (ha)	Estimated Number of Residential Units	Population Density (persons / ha)	Comment	Reference
A1	130	Proposed	Commercial	12.80	-	-	O'Keefe Court – Conceptual site plan shows proposed commercial.	Conceptual Plans for O'Keefe Court
A2-A	130	Proposed	Commercial	85.18	-	-	CitiGate – Analysis uses same approach as the design for CitiGate.	Detailed Servicing and SWM Report (Phase 1) (Novatech, 2014)
A2-B	130	Proposed	Commercial	32.46	-	-		
A2-C	120	Proposed	Commercial (ex. Snow dump)	15.25	-	-	Existing snow dump facility assumed to be future commercial.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012)
A3-A	130	Proposed	Low Density Residential	16.18	461	95.2	Havencrest – Existing single family units.	Havencrest Design Report (IBI, 2013)
A3-B	130	Existing	Institutional	10.30	-	-	Cedarview Middle School and Cedarview Alliance Church.	Aerial Photos / Site Visits
A3-C	130	Existing	Medium Density Residential	5.19	311	162	Existing townhouse units.	
A3-D	130	Existing	Commercial	0.58	-	-	Existing commercial buildings.	
A3-E	130	Existing	Low Density Residential	35.68	999	95.2	Existing single family units.	
A3-F	130	Existing	Medium Density Residential	8.26	496	162.0	Existing townhouse units.	
A3-G	130	Existing	Institutional	0.90	-	-	Ottawa Torah Centre Chibad.	
A3-H	120	Existing	Low Density Residential	6.09	171	95.2	Existing single family units.	
A4	130	Existing	Low Density Residential	34.44	964	95.2	Existing single family units currently serviced by Jockvale pump station; to be redirected to SNC.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012); based on 2011 Census.
A5	110	Proposed	Commercial	17.72	-	-	Proposed commercial south of McKenna Casey Drive.	Site Visits
A6-A	100	Proposed	Commercial	15.18	-	-	Proposed commercial south of Srandherd Drive; east of Borrisokane Road.	Conceptual Plan for Lands Adjacent the Kennedy-Burnett SWMF provided by Minto (2015)
A6-B	100	Proposed	Institutional	6.05			Proposed school site on Minto property.	
A6-C	90	Existing	Medium Density Residential	4.87	292	162.0	Existing townhouse units.	Aerial Photos / Site Visits
A6-D	90	Proposed	Low Density Residential	17.56	492	95.2	Proposed single family units on lands owned by Minto / Mion.	Conceptual Plans for Lands Adjacent the Kennedy-Burnett SWMF provided by land owners.
A6-E	90	Proposed	Low Density Residential	6.94	203	95.2	Proposed single family units on lands owned by Pavic / Braovac.	
A7-A	80	Existing	Commercial	13.62	-	-	Existing large retail stores (commercial).	Aerial Photos
A7-B	80	Proposed	High Density Residential	11.01	826	135.0	Proposed high density units on lands owned by Richcraft / Trinity.	Conceptual Plans for Lands Adjacent the Kennedy-Burnett SWMF provided by land owners.
A7-C	80	Proposed	Medium Density Residential	6.97	418	162.0	Proposed Medium density units on lands owned by Mion.	
A7-D	80	Proposed	Medium Density Residential	11.74	704	162.0	Proposed Medium density units on lands owned by Caivan.	
A7-E1/E2	80	Proposed	Medium Density Residential	9.24	554	162.0	Proposed Medium density units on lands owned by Claridge.	
A8-A	80	Existing	Commercial	28.45	-	-	Existing Barrhaven Market Place (commercial).	Aerial Photos / Site Visits
A8-B	80	Proposed	High Density Residential	39.34	2951	135.0	Future development similar to Ampersands development.	Site Visits
A8-C	80	Existing	Institutional	10.52	-	-	Existing St. Joseph High School.	Aerial Photos / Site Visits
A8-D	80	Proposed	Low Density Residential	16.87	1012	162.0	Proposed 600 low density residential units.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012)

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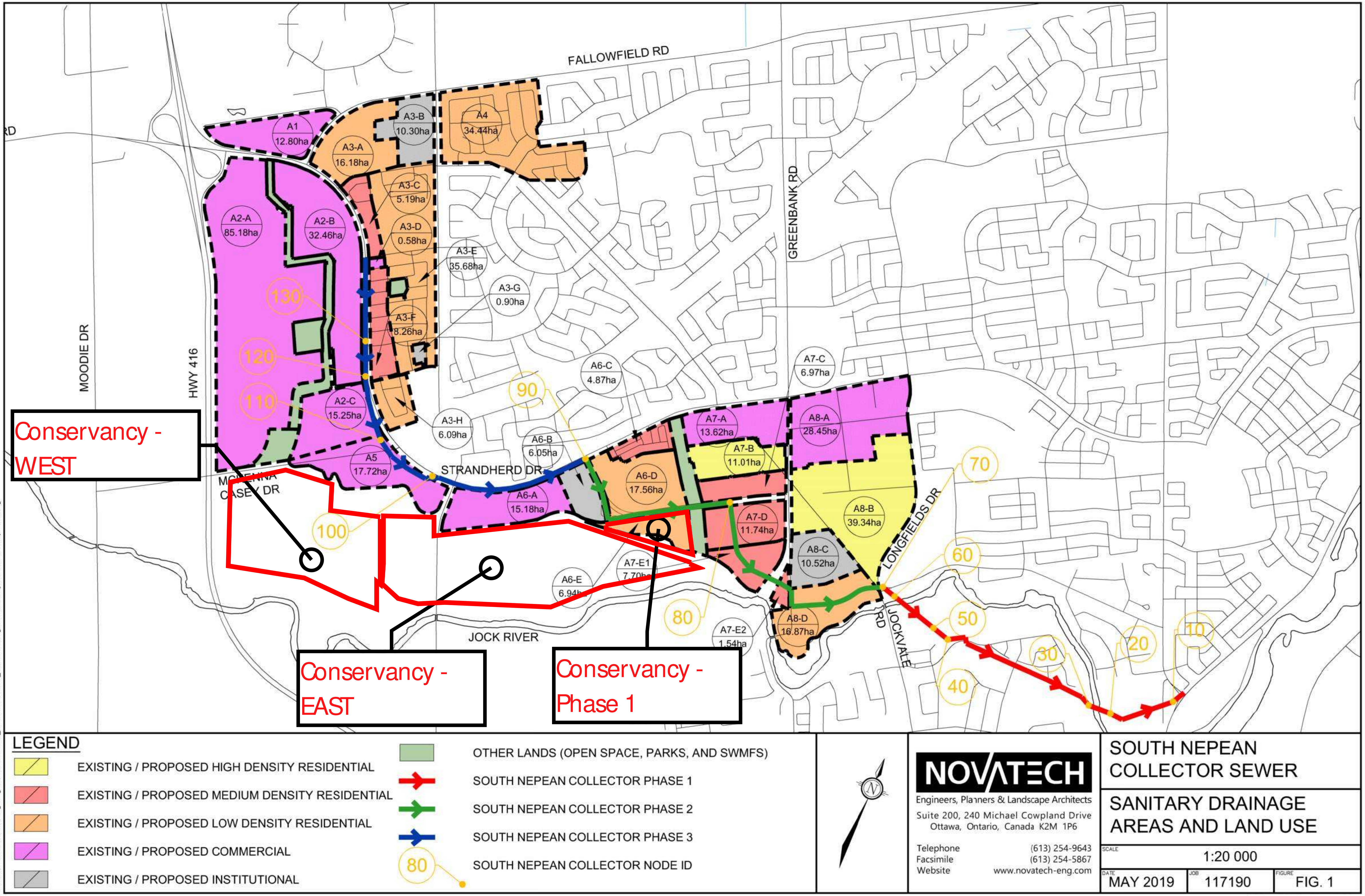

FALLOWFIELD RD
GREENBANK RD
MOODIE DR
HWY 416
STRANDHERD DR
MCKENNA CASEY DR
LONGFIELDS DR
JOCKVALE RD
JOCK RIVER
A1 12.80ha
A2-A 85.18ha
A2-B 32.46ha
A2-C 15.25ha
A3-A 16.18ha
A3-B 10.30ha
A3-C 5.19ha
A3-D 0.58ha
A3-E 35.68ha
A3-F 8.26ha
A3-G 0.90ha
A3-H 6.09ha
A4 34.44ha
A5 17.72ha
A6-A 15.18ha
A6-B 6.05ha
A6-C 4.87ha
A6-D 17.56ha
A7-A 13.62ha
A7-B 11.01ha
A7-C 6.97ha
A7-D 11.74ha
A7-E2 1.54ha
A8-A 28.45ha
A8-B 39.34ha
A8-C 10.52ha
A8-D 16.87ha
10
20
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100
110
120
130
Conservancy - WEST
Conservancy - EAST
Conservancy - Phase 1
LEGEND
EXISTING / PROPOSED HIGH DENSITY RESIDENTIAL
EXISTING / PROPOSED MEDIUM DENSITY RESIDENTIAL
EXISTING / PROPOSED LOW DENSITY RESIDENTIAL
EXISTING / PROPOSED COMMERCIAL
EXISTING / PROPOSED INSTITUTIONAL
OTHER LANDS (OPEN SPACE, PARKS, AND SWMFS)
SOUTH NEPEAN COLLECTOR PHASE 1
SOUTH NEPEAN COLLECTOR PHASE 2
SOUTH NEPEAN COLLECTOR PHASE 3
80
SOUTH NEPEAN COLLECTOR NODE ID
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NOVATECH
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SOUTH NEPEAN COLLECTOR SEWER
SANITARY DRAINAGE AREAS AND LAND USE
SCALE 1:20 000
DATE MAY 2019
JOB 117190
FIGURE FIG. 1
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PROJECT #:	117190
DESIGNED BY:	CMS
CHECKED BY:	RJD
DATE:	December 5, 2018

SANITARY SEWER DESIGN SHEET

South Nepean Collector - Phase 2 & 3

Theoretical Current Operational Peak Wastewater Flow

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Location			Areas				Population				Individual Design Flows			Cumulative Design Flows				
Area I.D.	**Existing Land Use**	**Upstream Node**	**Gross Commercial Area (ha)**	**Gross Institutional Area (ha)**	**Gross Residential Area (ha)**	**Total Gross Area (ha)**	**Residential Popultation Density (people / ha)**	**Individual Residential Population**	**Cumulative Residential Population**	**Residential Peaking Factor (Harmon Eqn[1])**	**Commercial Peak Flow Rate[2] (17,000 L/ha/d) (L/s)**	**Institutional Peak Flow Rate[2] (17,000 L/ha/d) (L/s)**	**Infiltration / Inflow Rate (0.3 L/s/ha) (L/s)**	**Commercial (L/s)**	**Institutional (L/s)**	**Infiltration / Inflow (L/s)**	**Residential Peak Flow Rate (200 L/cap/d) (L/s)**	**Cumulative Peak Design Flow (L/s)**
A1	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2-A	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2-B	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A3-A	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A3-B	Institutional	130		10.30		10.30					0.0	2.0	3.1	0.0	2.0	3.1	0.0	5.1
A3-C	Medium Density Residential	130			5.19	5.19	162.0	841	841	2.40	0.0	0.0	1.6	0.0	2.0	4.6	4.7	11.3
A3-D	Commercial	130	0.58			0.58			841	2.40	0.1	0.0	0.2	0.1	2.0	4.8	4.7	11.6
A3-E	Low Density Residential	130			35.68	35.68	95.2	3397	4238	2.39	0.0	0.0	10.7	0.1	2.0	15.5	23.4	41.1
A3-F	Medium Density Residential	130			8.26	8.26	162	1338	5576	2.32	0.0	0.0	2.5	0.1	2.0	18.0	29.9	50.1
A3-G	Institutional	130		0.90		0.90			5576	2.32	0.0	0.2	0.3	0.1	2.2	18.3	29.9	50.5
A4	Low Density Residential*	130				0.00			5576	2.32	0.0	0.0	0.0	0.1	2.2	18.3	29.9	50.5
A2-C	Snow Dump Facility	120				0.00			5576	2.32	0.0	0.0	0.0	0.1	2.2	18.3	29.9	50.5
A3-H	Low Density Residential	120			6.09	6.09	95.2	580	6155	2.30	0.0	0.0	1.8	0.1	2.2	20.1	32.7	55.1
A5	Open Space	110				0.00			6155	2.30	0.0	0.0	0.0	0.1	2.2	20.1	32.7	55.1
A6-A	Open Space	100				0.00			6155	2.30	0.0	0.0	0.0	0.1	2.2	20.1	32.7	55.1
A6-B	Open Space	100				0.00			6155	2.30	0.0	0.0	0.0	0.1	2.2	20.1	32.7	55.1
A6-C	Medium Density Residential	90			4.87	4.87	162.0	789	6944	2.27	0.0	0.0	1.5	0.1	2.2	21.6	36.4	60.3
A6-D	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	0.1	2.2	21.6	36.4	60.3
A6-E	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	0.1	2.2	21.6	36.4	60.3
A7-A	Commercial	90	13.62			13.62			6944	2.27	2.7	0.0	4.1	2.8	2.2	25.6	36.4	67.1
A7-B	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	2.2	25.6	36.4	67.1
A7-C	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	2.2	25.6	36.4	67.1
A7-D	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	2.2	25.6	36.4	67.1
A7-E1/E2	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	2.2	25.6	36.4	67.1
A8-A	Commercial	80	28.45			28.45			6944	2.27	5.6	0.0	8.5	8.4	2.2	34.2	36.4	81.2
A8-B	Open Space	80				0.00			6944	2.27	0.0	0.0	0.0	8.4	2.2	34.2	36.4	81.2
A8-C	Institutional	80		10.52		10.52			6944	2.27	0.0	2.1	3.2	8.4	4.3	37.3	36.4	86.4
A8-D	Open Space	80				0.00			6944	2.27	0.0	0.0	0.0	8.4	4.3	37.3	36.4	86.4
ROW Along SNC Sewer Alignment	-	80				14.34			6944	2.27	0.0	0.0	4.3	8.4	4.3	41.6	36.4	90.7
TOTAL		***80***	***42.65***	***21.72***	***60.09***	***138.80***	***-***	***6944***	***6944***	***2.27***	***8.4***	***4.3***	***41.6***	***8.4***	***4.3***	***41.6***	***36.4***	***90.7***

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = $1 + [14 / (4+(P/1000)^{1/2})] \times K$

Where: P = population; K = correction factor = 0.6

2. Instituional / Commercial Peaking Factor = 1.0

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station; currently not directed to SNC

PROJECT #: 117190
DESIGNED BY: CMS
CHECKED BY: RJD
DATE: December 5, 2018

SANITARY SEWER DESIGN SHEET

South Nepean Collector - Phase 2 & 3

Theoretical Future Full Service Peak Wastewater Flow

NOVATECH
Engineers, Planners & Landscape Architects

Location			Areas				Population				Individual Design Flows			Cumulative Design Flows				
Area I.D.	**Existing / Proposed Land Use**	**Upstream Node**	**Gross Commercial Area (ha)**	**Gross Institutional Area (ha)**	**Gross Residential Area (ha)**	**Total Gross Area (ha)**	**Residential Popultation Density (people / ha)**	**Individual Residential Population**	**Cumulative Residential Population**	**Residential Peaking Factor (Harmon Eqn[1])**	**Commercial Peak Flow Rate[2] (28,000 L/ha/d) (L/s)**	**Institutional Peak Flow Rate[2] (28,000 L/ha/d) (L/s)**	**Infiltration / Inflow Rate (0.33 L/s/ha) (L/s)**	**Commercial (L/s)**	**Institutional (L/s)**	**Infiltration / Inflow (L/s)**	**Residential Peak Flow Rate (280 L/cap/d) (L/s)**	**Cumulative Peak Design Flow (L/s)**
A1	Commercial	130	12.80			12.80					6.2	0.0	4.2	6.2	0.0	4.2	0.0	10.4
A2-A	Commercial	130	85.18			85.18					41.4	0.0	28.1	47.6	0.0	32.3	0.0	80.0
A2-B	Commercial	130	32.46			32.46					15.8	0.0	10.7	63.4	0.0	43.0	0.0	106.5
A3-A	Low Density Residential	130			16.18	16.18	95.2	1540	1540	3.14	0.0	0.0	5.3	63.4	0.0	48.4	15.7	127.5
A3-B	Institutional	130		10.30		10.30			1540	3.14	0.0	3.3	3.4	63.4	3.3	51.8	15.7	134.2
A3-C	Medium Density Residential	130			5.19	5.19	162.0	841	2381	3.02	0.0	0.0	1.7	63.4	3.3	53.5	23.3	143.6
A3-D	Commercial	130	0.58			0.58			2381	3.02	0.3	0.0	0.2	63.7	3.3	53.7	23.3	144.0
A3-E	Low Density Residential	130			35.68	35.68	95.2	3397	5778	2.75	0.0	0.0	11.8	63.7	3.3	65.5	51.5	184.0
A3-F	Medium Density Residential	130			8.26	8.26	162	1338	7116	2.68	0.0	0.0	2.7	63.7	3.3	68.2	61.8	197.0
A3-G	Institutional	130		0.90		0.90			7116	2.68	0.0	0.3	0.3	63.7	3.6	68.5	61.8	197.6
A4	Low Density Residential	130			34.44	34.44	95.2	3279	10395	2.55	0.0	0.0	11.4	63.7	3.6	79.9	85.9	233.1
A2-C	Commercial (ex. snow dump)	120	15.25			15.25			10395	2.55	7.4	0.0	5.0	71.1	3.6	84.9	85.9	245.5
A3-H	Low Density Residential	120			6.09	6.09	95.2	580	10974	2.53	0.0	0.0	2.0	71.1	3.6	86.9	90.0	251.7
A5	Commercial	110	17.72			17.72			10974	2.53	8.6	0.0	5.8	79.7	3.6	92.7	90.0	266.1
A6-A	Commercial	100	15.18			15.18			10974	2.53	7.4	0.0	5.0	87.1	3.6	97.7	90.0	278.5
A6-B	Institutional	100		6.05		6.05			10974	2.53	0.0	2.0	2.0	87.1	5.6	99.7	90.0	282.5
A6-C	Medium Density Residential	90			4.87	4.87	162.0	789	11763	2.51	0.0	0.0	1.6	87.1	5.6	101.4	95.6	289.6
A6-D	Low Density Residential	90			17.56	17.56	95.2	1672	13435	2.46	0.0	0.0	5.8	87.1	5.6	107.1	107.2	307.0
A6-E	Low Density Residential	90			6.94	6.94	95.2	661	14096	2.44	0.0	0.0	2.3	87.1	5.6	109.4	111.7	313.8
A7-A	Commercial	90	13.62			13.62			14096	2.44	6.6	0.0	4.5	93.7	5.6	113.9	111.7	324.9
A7-B	High Density Residential	90			11.01	11.01	135.0	1486	15582	2.41	0.0	0.0	3.6	93.7	5.6	117.6	121.7	338.5
A7-C	Medium Density Residential	90			6.97	6.97	162.0	1129	16711	2.38	0.0	0.0	2.3	93.7	5.6	119.9	129.2	348.3
A7-D	Medium Density Residential	90			11.74	11.74	162.0	1902	18613	2.35	0.0	0.0	3.9	93.7	5.6	123.7	141.6	364.6
A7-E1/E2	Medium Density Residential	90			9.24	9.24	162.0	1497	20110	2.32	0.0	0.0	3.0	93.7	5.6	126.8	151.2	377.3
A8-A	Commercial	80	28.45			28.45			20110	2.32	13.8	0.0	9.4	107.5	5.6	136.2	151.2	400.5
A8-B	High Density Residential	80			39.34	39.34	135.0	5311	25421	2.24	0.0	0.0	13.0	107.5	5.6	149.2	184.4	446.7
A8-C	Institutional	80		10.52		10.52			25421	2.24	0.0	3.4	3.5	107.5	9.0	152.6	184.4	453.6
A8-D	Low Density Residential	80			16.87	16.87	120.9	2040	27461	2.21	0.0	0.0	5.6	107.5	9.0	158.2	196.9	471.6
ROW Along SNC Sewer Alignment	-	80				14.34			27461	2.21	0.0	0.0	4.7	107.5	9.0	162.9	196.9	476.3
TOTAL		***80***	***221.24***	***27.77***	***230.38***	***493.73***	***-***	***27461***	***27461***	***2.21***	***107.5***	***9.0***	***162.9***	***107.5***	***9.0***	***162.9***	***196.9***	***476.3***

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = $1 + [14 / (4+(P/1000)^{1/2})] \times K$

Where: P = population; K = correction factor = 0.8

2. Commercial Peaking Factor = 1.5; Institutional Peaking Factor = 1.0

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station to be redirected to SNC

2. Area A8-D: proposed 600 medium density residential units

See Note (2) in the DSEL "Barrhaven Conservancy - Evaluation of SNC Flows" design sheet

THE PRIOR NOVATECH SNC DESIGN SHEET HAD FLOWS AT 423.6 L/s AFTER AREA ID "A6-E'.

THIS UPDATED NOVATECH 'PHASE 3' EVALUATION HAS A FLOW OF 313.8 L/s.

THE DSEL EVALUATION OF SANITARY FLOWS WITH THE NEW CITY DESIGN PARAMETERS AT THIS SAME NODE (WITH CONSERVANCY WEST AND EAST INCLUDED) IS ~401.05 L/s (WHICH IS LESS THAN THE PRIOR 423.6 L/s NOTED ABOVE)

SOUTH NEPEAN COLLECTOR (PHASE 3)
SANITARY SEWER DESIGN SHEET

DECEMBER 5 2018
JOB# 117190

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION			Area				Population		Cumulative Design Flows					PROPOSED SEWER						
From MH	To MH	Upstream Node	Gross Commercial Area (ha)	Gross Institutional Area (ha)	Gross Residential Area (ha)	Total Gross Area (ha)	Cumulative Residential Population	Residential Peaking Factor (Harmon Eqn[1])	Commercial (L/s)	Institutional (L/s)	Infiltration / Inflow (L/s)	Residential Peak Flow Rate (280 L/cap/d) (L/s)	Cumulative Peak Design Flow (L/s)	Length (m)	Pipe Size (mm)	Type	Slope %	Capacity (L/s)	Full Flow Velocity (m/s)	Ratio (Q/Qfull)
SA 22	SA 21	120	146.27	11.20	105.84	263.31	10974	2.53	71.1	3.6	86.9	90.0	251.7	131.9	750	CONC	0.10	367.3	0.81	69%
SA 21	SA 20	120											251.7	90.6	750	CONC	0.10	367.3	0.81	69%
SA 20	SA 19	120											251.7	90.0	750	CONC	0.10	367.3	0.81	69%
SA 19	SA 18	120											251.7	72.1	750	CONC	0.10	367.3	0.81	69%
SA 18	SA 17	120											251.7	71.9	750	CONC	0.10	367.3	0.81	69%
SA 17	SA 16	120											251.7	71.4	750	CONC	0.10	367.3	0.81	69%
SA 16	SA 15	110	163.99	11.20	105.84	281.03	10974	2.53	79.7	3.6	92.7	90.0	266.1	73.2	750	CONC	0.10	367.3	0.81	72%
SA 15	SA 14	110											266.1	67.5	750	CONC	0.10	367.3	0.81	72%
SA 14	SA 13	110											266.1	56.6	750	CONC	0.10	367.3	0.81	72%
SA 13	SA 12	110											266.1	133.5	750	CONC	0.10	367.3	0.81	72%
SA 12	SA 11	110											266.1	150.0	750	CONC	0.10	367.3	0.81	72%
SA 11	SA 10	100	179.17	17.25	105.84	302.26	10974	2.53	87.1	5.6	99.7	90.0	282.5	97.8	750	CONC	0.10	367.3	0.81	77%
SA 10	SA 9	100											282.5	76.7	750	CONC	0.10	367.3	0.81	77%
SA 9	SA 8	100											282.5	79.7	750	CONC	0.10	367.3	0.81	77%
SA 8	SA 7	100											282.5	75.3	750	CONC	0.10	367.3	0.81	77%
SA 7	SA 6	100											282.5	84.9	750	CONC	0.10	367.3	0.81	77%
SA 6	SA 5	100											282.5	77.1	750	CONC	0.10	367.3	0.81	77%
SA 5	SA 4	100											282.5	78.9	750	CONC	0.10	367.3	0.81	77%
SA 4	SA 3	100											282.5	80.5	750	CONC	0.10	367.3	0.81	77%
SA 3	SA 2	100											282.5	150.0	750	CONC	0.10	367.3	0.81	77%
SA 2	SA 1	100											282.5	114.6	750	CONC	0.10	367.3	0.81	77%
SA 1	*EX 80*	100											282.5	12.4	750	CONC	0.10	367.3	0.81	77%

Design Parameters:

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles / semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row / townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = $1 + [14 / (4+(P/1000)^{1/2})] \times K$

Where: P = population; K = correction factor = 0.8

2. Commercial Peaking Factor = 1.5; Institutional Peaking Factor = 1.0

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station to be redirected to SNC

2. Area A8-D: proposed 600 medium density residential units

LICENSED PROFESSIONAL ENGINEER
C. M. STANG
100125708
March 13/19
PROVINCE OF ONTARIO

M E M O R A N D U M

DATE: MAY 26, 2016

TO: JONATHAN KNOYLE – CITY OF OTTAWA

FROM: CONRAD STANG – NOVATECH

RE: SOUTH NEPEAN COLLECTOR PHASE 2: SANITARY FLOW CALCULATIONS

CC: EDSON DONNELLY – NOVATECH

1.0 PURPOSE

This memorandum provides the sanitary sewer flow calculations and design sheet for Phase 2 of the proposed South Nepean Collector (SNC). Sanitary design flows have been estimated for both current-day operational flows and future development peak design flows, based on the latest available planning information for the vacant lands within the SNC sewershed.

2.0 BACKGROUND

In January 1998, the Master Servicing Study for the South Nepean Urban Area provided a conceptual plan for water, wastewater and stormwater infrastructure. The preferred alternative for wastewater servicing was an east/west trunk sewer alignment that was to be completed in several phases. The proposed sanitary trunk sewer was initially called the Jock River Collector, but was renamed the South Nepean Collector during the original functional design study completed in 2003.

Phase 1 of the South Nepean Collector was completed in 2005 and currently terminates at a 2400mm maintenance hole located east of Longfields Drive, north of Bren-Maur Road. Phase 2 will extend the trunk sewer to Strandherd Drive at the intersection of the proposed transitway along the proposed extension to Chapman Mills Drive. Phase 3 will extend the trunk sewer along Strandherd Drive to the intersection of Maravista Drive.

The sanitary sewer flows were previously documented in the *South Nepean Collector – Functional Design Report and Update* (Dillon, 2012). A review of the sanitary flows provided in the Dillion Report based on the latest planning information for the vacant lands within the SNC sewershed was documented in the technical memorandum titled South Nepean Collector Phase 2: Hydraulics Review / Assessment (Novatech, 2015), which is attached to this memorandum. The results of the Hydraulics Review / Assessment (Novatech, 2015) were very similar to the results from the Dillion (2012) analysis.

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3.0 DESIGN PARAMETERS AND POPULATION ESTIMATES

3.1 Design Parameters

The sanitary design flow were calculated using the parameters from the City of Ottawa Sewer Design Guidelines (October 2012), and are summarized in **Table 1** and **Table 2**.

Table 1: Peak Design Flow Parameters

Land Use	Average Daily Flow	Peaking Factor	Peak Extraneous Flows
Residential	350 L/cap/day	Harmon Equation, K=1 (2.0 min – 4.0 max)	0.28 L/s/ha
Commercial	50,000 L/ha/day	1.5	
Institutional	50,000 L/ha/day	1.5	
Other*	0 L/ha/day	N/A	

**Open Space, Arterial ROW, SWM Blocks, etc. with no sanitary flow contribution (extraneous flow only)*

Table 2: Operational Design Flow Parameters

Land Use	Average Daily Flow	Peaking Factor	Peak Extraneous Flows
Residential	300 L/cap/day	Harmon Equation, K=0.6 (1.2 min – 2.4 max)	Dry weather 0.05-0.08 L/s/ha Wet Weather 0.15 - 0.20 L/s/ha (typical events) 0.28 L/s/ha (large/annual events) 0.30 - 0.50 L/s/ha (extreme events)
Commercial	17,000 L/ha/day	1.0 (non-coincident peak)	
Institutional	10,000 L/ha/day	1.0 (non-coincident peak)	

**There are no industrial areas identified within the tributary area.*

Harmon Equation $= 1 + \frac{14}{4+\left(\frac{P}{1000}\right)^{\frac{1}{2}}} \times K$

Where:

P = Population

K = Correction Factor:

- Peak Flow = 1
- Operational = between 0.4 to 0.6 (0.6 used)

3.2 Land Use Designations & Population Estimates

Population densities and unit counts for future residential development are based on the current concept plans for these areas, and are presented in **Table 3**.

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Table 3: Residential Land Use Population Densities

Residential Land Use	Units per ha	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

The land use designations shown in **Table 4** have been applied for the areas within Phases 2 and 3 of the SNC (Node 70 to 130). The sewershed areas and land use designations were delineated using aerial photos (existing development) and conceptual site plans (future development).

Table 4: Land Use Designations

Land Use Designation	
Secondary Plan	**SNC Design**
Residential	Residential (Low / Medium / High Density)
Institutional / Office	Institutional
Commercial	Commercial
Recreational	
Business Park	
Prestige Business Park	
Park/Open Space Area	Other*
Ex. Snow Disposal Facility (future commercial)	
Stormwater Management Facility	
Conservation Lands	
Arterial Right-of-Ways	

** No sanitary flow contribution - extraneous flows (inflow/infiltration) only.*

The overall residential population estimate and sewershed area for Phases 2 and 3 of the SNC is provided in **Table 5** below. It is assumed that the snow dump facility at the Stranderd Drive and McKenna Casey Drive will ultimately be re-zoned for commercial development.

Table 5: Population Estimates and Areas

Existing / Future	Estimated Population / Area	Novatech (2015)
Existing	Estimated Population	6,944 persons
	Gross Residential Area	60.09 ha
	Gross Commercial / Institutional Area	64.37 ha
	Total Sewershed Area	124.5 ha
Future (full service)	Estimated Population	27,312 persons
	Gross Residential Area	248.48 ha
	Gross Commercial / Institutional Area	228.82 ha
	Total Sewershed Area	477.3 ha

4.0 SANITARY DESIGN FLOWS

The sanitary flow allocations for Phases 2 and 3 of the SNC are provided in **Table 6**. The corresponding sanitary drainage area plan is provided as **Figure 1**. Sanitary sewer flow calculations for Phases 2 and 3 and detailed sanitary sewer design sheets for Phase 2 are attached to this memorandum.

The estimated sanitary design flows from Phases 2 and 3 of the SNC (entering Node 70) are as follows:

- Present-Day Operational Design Flows (Theoretical) = 72.5 L/s
- Future Peak Design Flows = 634.2 L/s

The outlet for Phase 2 of the SNC is the existing 1050mm outlet pipe at the 2400mm maintenance hole (Node 70) located east of Longfields Drive, north of Bren-Maur Road. Given a minimum design slope of 0.10%, this sanitary trunk sewer would have a full flow capacity of 900.5 L/s. Therefore, the downstream sanitary trunk sewer would be at 70% capacity, based on the future peak design flow being 634.2 L/s.

ATTACHMENTS:

- Figure 1: Sanitary Drainage Areas and Land Use
- Sanitary Sewer Flow Calculations
- Sanitary Sewer Design Sheets (Phase 2)
- South Nepean Collector Phase 2: Hydraulics Review / Assessment (Novatech, 2015)

LICENSED PROFESSIONAL ENGINEER
May 26/16
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Table 6: Updated Allocation of Commercial, Institutional and Residential Demands to Phases 2 & 3 (Nodes 70 – 130) of the SNC by Collection Area

Collection Area	Upstream Node	Existing / Proposed Development	Existing / Proposed Land Use	Area (ha)	Estimated Number of Residential Units	Population Density (persons / ha)	Comment	Reference
A1	130	Proposed	Commercial	12.80	-	-	O'Keefe Court – Conceptual site plan shows proposed commercial.	Conceptual Plans for O'Keefe Court
A2-A	130	Proposed	Commercial	85.18	-	-	CitiGate – Analysis uses same approach as the design for CitiGate.	Detailed Servicing and SWM Report (Phase 1) (Novatech, 2014)
A2-B	130	Proposed	Commercial	32.46	-	-		
A2-C	120	Proposed	Commercial (ex. Snow dump)	15.25	-	-	Existing snow dump facility assumed to be future commercial.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012)
A3-A	130	Proposed	Low Density Residential	16.48	461	95.2	Havencrest – Existing single family units.	Havencrest Design Report (IBI, 2013)
A3-B	130	Existing	Institutional	10.30	-	-	Cedarview Middle School and Cedarview Alliance Church.	Aerial Photos / Site Visits
A3-C	130	Existing	Medium Density Residential	5.19	311	162	Existing townhouse units.	
A3-D	130	Existing	Commercial	0.58	-	-	Existing commercial buildings.	
A3-E	130	Existing	Low Density Residential	35.68	999	95.2	Existing single family units.	
A3-F	130	Existing	Medium Density Residential	8.26	496	162.0	Existing townhouse units.	
A3-G	130	Existing	Institutional	0.90	-	-	Ottawa Torah Centre Chibad.	
A3-H	120	Existing	Low Density Residential	6.09	171	95.2	Existing single family units.	
A4	130	Existing	Low Density Residential	34.44	964	95.2	Existing single family units currently serviced by Jockvale pump station; to be redirected to SNC.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012); based on 2011 Census.
A5	110	Proposed	Commercial	17.72	-	-	Proposed commercial south of McKenna Casey Drive.	Site Visits
A6-A	100	Proposed	Institutional	20.70	-	-	Proposed school site on Minto property.	Conceptual Plan for Lands Adjacent the Kennedy-Burnett SWMF provided by Minto (2015)
A6-B	90	Existing	Medium Density Residential	4.87	292	162.0	Existing townhouse units.	Aerial Photos / Site Visits
A6-C	90	Proposed	Low Density Residential	10.11	283	95.2	Proposed single family units on lands owned by Minto.	Conceptual Plans for Lands Adjacent the Kennedy-Burnett SWMF provided by land owners.
A6-D	90	Proposed	Low Density Residential	5.59	157	95.2	Proposed single family units on lands owned by Mion.	
A6-E	90	Proposed	Low Density Residential	7.24	203	95.2	Proposed single family units on lands owned by Pavic / Braovac.	
A7-A	80	Existing	Commercial	13.62	-	-	Existing large retail stores (commercial).	Aerial Photos
A7-B	80	Proposed	High Density Residential	11.01	826	135.0	Proposed high density units on lands owned by Richcraft / Trinity.	Conceptual Plans for Lands Adjacent the Kennedy-Burnett SWMF provided by land owners.
A7-C	80	Proposed	Medium Density Residential	6.97	418	162.0	Proposed Medium density units on lands owned by Mion.	
A7-D	80	Proposed	Medium Density Residential	11.74	704	162.0	Proposed Medium density units on lands owned by Caivan.	
A7-E1/E2	80	Proposed	Medium Density Residential	9.24	554	162.0	Proposed Medium density units on lands owned by Claridge.	
A8-A	80	Existing	Commercial	28.45	-	-	Existing Barrhaven Market Place (commercial).	Aerial Photos / Site Visits
A8-B	80	Proposed	High Density Residential	39.34	2951	135.0	Future development similar to Ampersands development.	Site Visits
A8-C	80	Existing	Institutional	10.52	-	-	Existing St. Joseph High School.	Aerial Photos / Site Visits
A8-D	80	Proposed	Low Density Residential	16.87	1012	162.0	Proposed 600 low density residential units.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012)

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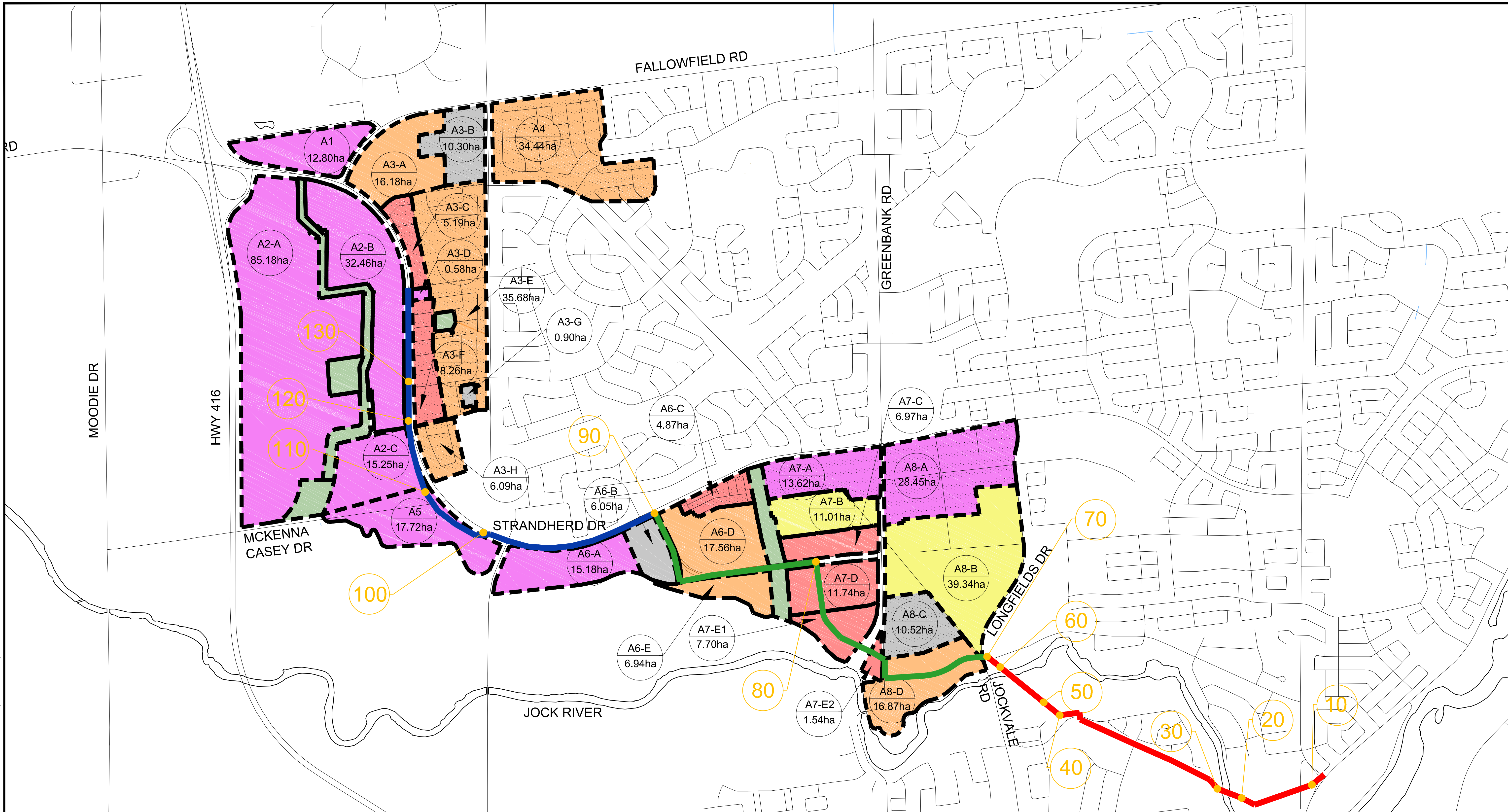
Attachment 1

Sanitary Drainage Areas and Land Use



LEGEND

- EXISTING / PROPOSED HIGH DENSITY RESIDENTIAL
- EXISTING / PROPOSED MEDIUM DENSITY RESIDENTIAL
- EXISTING / PROPOSED LOW DENSITY RESIDENTIAL
- EXISTING / PROPOSED COMMERCIAL
- EXISTING / PROPOSED INSTITUTIONAL
- OTHER LANDS (OPEN SPACE, PARKS, AND SWMFS)
- SOUTH NEPEAN COLLECTOR PHASE 1
- SOUTH NEPEAN COLLECTOR PHASE 2
- SOUTH NEPEAN COLLECTOR PHASE 3
- 80 SOUTH NEPEAN COLLECTOR NODE ID

NOVATECH
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SOUTH NEPEAN COLLECTOR SEWER

SANITARY DRAINAGE AREAS AND LAND USE

SCALE			
1:20 000			
DATE MAY 2016	JOB 115075	FIGURE FIG. 1	

Attachment 2

Sewer Flow Calculations

PROJECT #: 115075
DESIGNED BY: CMS
CHECKED BY: MJP
DATE: August 20, 2015

SANITARY SEWER DESIGN SHEET

South Nepean Collector - Phase 2 & 3

Theoretical Current Operational Peak Wastewater Flow

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Location			Areas				Population				Individual Design Flows			Cumulative Design Flows				
Area I.D.	Existing Land Use	Upstream Node	Gross Commercial Area (ha)	Gross Institutional Area (ha)	Gross Residential Area (ha)	Total Gross Area (ha)	Residential Popultation Density (people / ha)	Individual Residential Population	Cumulative Residential Population	Residential Peaking Factor (Harmon Eqn[1])	Commercial Peak Flow Rate[2] (17,000 L/ha/d) (L/s)	Institutional Peak Flow Rate[2] (10,000 L/ha/d) (L/s)	Infiltration / Inflow Rate (0.05 L/s/ha) (L/s)	Commercial (L/s)	Institutional (L/s)	Infiltration / Inflow (L/s)	Residential Peak Flow Rate (300 L/cap/d) (L/s)	Cumulative Peak Design Flow (L/s)
A1	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2-A	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2-B	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A3-A	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A3-B	Institutional	130		10.30		10.30					0.0	1.2	0.5	0.0	1.2	0.5	0.0	1.7
A3-C	Medium Density Residential	130			5.19	5.19	162.0	841	841	2.71	0.0	0.0	0.3	0.0	1.2	0.8	7.9	9.9
A3-D	Commercial	130	0.58			0.58			841	2.71	0.1	0.0	0.0	0.1	1.2	0.8	7.9	10.0
A3-E	Low Density Residential	130			35.68	35.68	95.2	3397	4238	2.39	0.0	0.0	1.8	0.1	1.2	2.6	35.1	39.0
A3-F	Medium Density Residential	130			8.26	8.26	162	1338	5576	2.32	0.0	0.0	0.4	0.1	1.2	3.0	44.9	49.2
A3-G	Institutional	130		0.90		0.90			5576	2.32	0.0	0.1	0.0	0.1	1.3	3.0	44.9	49.4
A4	Low Density Residential*	130				0.00			5576	2.32	0.0	0.0	0.0	0.1	1.3	3.0	44.9	49.4
A2-C	Snow Dump Facility	120				0.00			5576	2.32	0.0	0.0	0.0	0.1	1.3	3.0	44.9	49.4
A3-H	Low Density Residential	120			6.09	6.09	95.2	580	6155	2.30	0.0	0.0	0.3	0.1	1.3	3.4	49.1	53.8
A5	Open Space	110				0.00			6155	2.30	0.0	0.0	0.0	0.1	1.3	3.4	49.1	53.8
A6-A	Open Space	100				0.00			6155	2.30	0.0	0.0	0.0	0.1	1.3	3.4	49.1	53.8
A6-B	Open Space	100				0.00			6155	2.30	0.0	0.0	0.0	0.1	1.3	3.4	49.1	53.8
A6-C	Medium Density Residential	90			4.87	4.87	162.0	789	6944	2.27	0.0	0.0	0.2	0.1	1.3	3.6	54.6	59.6
A6-D	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	0.1	1.3	3.6	54.6	59.6
A6-E	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	0.1	1.3	3.6	54.6	59.6
A7-A	Commercial	90	13.62			13.62			6944	2.27	2.7	0.0	0.7	2.8	1.3	4.3	54.6	63.0
A7-B	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	1.3	4.3	54.6	63.0
A7-C	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	1.3	4.3	54.6	63.0
A7-D	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	1.3	4.3	54.6	63.0
A7-E1/E2	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	1.3	4.3	54.6	63.0
A8-A	Commercial	80	28.45			28.45			6944	2.27	5.6	0.0	1.4	8.4	1.3	5.7	54.6	70.0
A8-B	Open Space	80				0.00			6944	2.27	0.0	0.0	0.0	8.4	1.3	5.7	54.6	70.0
A8-C	Institutional	80		10.52		10.52			6944	2.27	0.0	1.2	0.5	8.4	2.5	6.2	54.6	71.8
A8-D	Open Space	80				0.00			6944	2.27	0.0	0.0	0.0	8.4	2.5	6.2	54.6	71.8
ROW Along SNC Sewer Alignment	-	80				14.34			6944	2.27	0.0	0.0	0.7	8.4	2.5	6.9	54.6	72.5
TOTAL		***80***	***42.65***	***21.72***	***60.09***	***138.80***	***-***	***6944***	***6944***	***2.27***	***8.4***	***2.5***	***6.9***	***8.4***	***2.5***	***6.9***	***54.6***	***72.5***

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

<u>Notes:</u>

1. Harmon Equation = $1 + [14 / (4+(P/1000)^{1/2})] \times K$

Where: P = population; K = correction factor = 0.6

2. Instituional / Commercial Peaking Factor = 1.0

<u>Reported Design Flows / Assumptions:</u>

1. Area A4: Existing single family units currently serviced by Jockvale pump station; currently not directed to SNC

PROJECT #: 115075
DESIGNED BY: CMS
CHECKED BY: MJP
DATE: August 20, 2015

SANITARY SEWER DESIGN SHEET

South Nepean Collector - Phase 2 & 3

Theoretical Future Full Service Peak Wastewater Flow

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Location			Areas				Population				Individual Design Flows			Cumulative Design Flows				
Area I.D.	**Existing / Proposed Land Use**	**Upstream Node**	**Gross Commercial Area (ha)**	**Gross Institutional Area (ha)**	**Gross Residential Area (ha)**	**Total Gross Area (ha)**	**Residential Popultation Density (people / ha)**	**Individual Residential Population**	**Cumulative Residential Population**	**Residential Peaking Factor (Harmon Eqn[1])**	**Commercial Peak Flow Rate[2] (50,000 L/ha/d) (L/s)**	**Institutional Peak Flow Rate[2] (50,000 L/ha/d) (L/s)**	**Infiltration / Inflow Rate (0.28 L/s/ha) (L/s)**	**Commercial (L/s)**	**Institutional (L/s)**	**Infiltration / Inflow (L/s)**	**Residential Peak Flow Rate (350 L/cap/d) (L/s)**	**Cumulative Peak Design Flow (L/s)**
A1	Commercial	130	12.80			12.80					11.1	0.0	3.6	11.1	0.0	3.6	0.0	14.7
A2-A	Commercial	130	85.18			85.18					73.9	0.0	23.9	85.1	0.0	27.4	0.0	112.5
A2-B	Commercial	130	32.46			32.46					28.2	0.0	9.1	113.2	0.0	36.5	0.0	149.8
A3-A	Low Density Residential	130			16.18	16.18	95.2	1540	1540	3.67	0.0	0.0	4.5	113.2	0.0	41.1	22.9	177.2
A3-B	Institutional	130		10.30		10.30			1540	3.67	0.0	8.9	2.9	113.2	8.9	43.9	22.9	189.0
A3-C	Medium Density Residential	130			5.19	5.19	162.0	841	2381	3.53	0.0	0.0	1.5	113.2	8.9	45.4	34.0	201.6
A3-D	Commercial	130	0.58			0.58			2381	3.53	0.5	0.0	0.2	113.7	8.9	45.6	34.0	202.2
A3-E	Low Density Residential	130			35.68	35.68	95.2	3397	5778	3.19	0.0	0.0	10.0	113.7	8.9	55.5	74.6	252.8
A3-F	Medium Density Residential	130			8.26	8.26	162	1338	7116	3.10	0.0	0.0	2.3	113.7	8.9	57.9	89.4	269.9
A3-G	Institutional	130		0.90		0.90			7116	3.10	0.0	0.8	0.3	113.7	9.7	58.1	89.4	270.9
A4	Low Density Residential	130			34.44	34.44	95.2	3279	10395	2.94	0.0	0.0	9.6	113.7	9.7	67.8	123.7	314.9
A2-C	Commercial (ex. snow dump)	120	15.25			15.25			10395	2.94	13.2	0.0	4.3	127.0	9.7	72.0	123.7	332.4
A3-H	Low Density Residential	120			6.09	6.09	95.2	580	10974	2.91	0.0	0.0	1.7	127.0	9.7	73.7	129.6	340.0
A5	Commercial	110	17.72			17.72			10974	2.91	15.4	0.0	5.0	142.4	9.7	78.7	129.6	360.3
A6-A	Commercial	100	15.18			15.18			10974	2.91	13.2	0.0	4.3	155.5	9.7	82.9	129.6	377.8
A6-B	Institutional	100		6.05		6.05			10974	2.91	0.0	5.3	1.7	155.5	15.0	84.6	129.6	384.7
A6-C	Medium Density Residential	90			4.87	4.87	162.0	789	11763	2.88	0.0	0.0	1.4	155.5	15.0	86.0	137.4	393.9
A6-D	Low Density Residential	90			17.56	17.56	95.2	1672	13435	2.83	0.0	0.0	4.9	155.5	15.0	90.9	153.8	415.2
A6-E	Low Density Residential	90			6.94	6.94	95.2	661	14096	2.81	0.0	0.0	1.9	155.5	15.0	92.9	160.2	423.6
A7-A	Commercial	90	13.62			13.62			14096	2.81	11.8	0.0	3.8	167.4	15.0	96.7	160.2	439.2
A7-B	High Density Residential	90			11.01	11.01	135.0	1486	15582	2.76	0.0	0.0	3.1	167.4	15.0	99.8	174.3	456.4
A7-C	Medium Density Residential	90			6.97	6.97	162.0	1129	16711	2.73	0.0	0.0	2.0	167.4	15.0	101.7	184.9	468.9
A7-D	Medium Density Residential	90			11.74	11.74	162.0	1902	18613	2.68	0.0	0.0	3.3	167.4	15.0	105.0	202.4	489.7
A7-E1/E2	Medium Density Residential	90			9.24	9.24	162.0	1497	20110	2.65	0.0	0.0	2.6	167.4	15.0	107.6	215.9	505.8
A8-A	Commercial	80	28.45			28.45			20110	2.65	24.7	0.0	8.0	192.0	15.0	115.5	215.9	538.5
A8-B	High Density Residential	80			39.34	39.34	135.0	5311	25421	2.55	0.0	0.0	11.0	192.0	15.0	126.6	262.4	596.0
A8-C	Institutional	80		10.52		10.52			25421	2.55	0.0	9.1	2.9	192.0	24.1	129.5	262.4	608.1
A8-D	Low Density Residential	80			16.87	16.87	120.9	2040	27461	2.52	0.0	0.0	4.7	192.0	24.1	134.2	279.8	630.2
ROW Along SNC Sewer Alignment	-	80				14.34			27461	2.52	0.0	0.0	4.0	192.0	24.1	138.2	279.8	634.2
TOTAL		***80***	***221.24***	***27.77***	***230.38***	***493.73***	***-***	***27461***	***27461***	***2.52***	***192.0***	***24.1***	***134.2***	***192.0***	***24.1***	***138.2***	***279.8***	***634.2***

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = $1 + [14 / (4+(P/1000)^{1/2})] \times K$

Where: P = population; K = correction factor = 1.0

2. Instituional / Commercial Peaking Factor = 1.5

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station to be redirected to SNC

2. Area A8-D: proposed 600 medium density residential units

THIS PRIOR NOVETECH SNC DESIGN SHEET HAD DESIGN FLOWS AT 423.6 L/S AFTER AREA ID "A6-E'.

THE DSEL EVALUATION WITH NEW PARAMETERS AT THIS SAME NODE WITH CONSERVANCY WEST AND EAST INCLUDED IS ~401.05 < 423.6 L/S

M:\2015\115075\DATA\Calculations\Sewer Calcs\SAN\20150820-SAN-Hydraulic Review.xlsx

Attachment 3

Sanitary Sewer Design Sheets (Phase 2)

SOUTH NEPEAN COLLECTOR (PHASE 2)
SANITARY SEWER DESIGN SHEET

MAY 26, 2016
JOB# 115075

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION			Area					Population				Individual Design Flows			Cumulative Design Flows					PROPOSED SEWER						
From MH	To MH	Upstream Node	Gross Commercial Area (ha)	Gross Institutional Area (ha)	Gross Residential Area (ha)	Right-of-Way (ha)	Total Gross Area (ha)	Residential Popultation Density (people / ha)	Individual Residential Population	Cumulative Residential Population	Residential Peaking Factor (Harmon Eqn[1])	Commercial Peak Flow Rate[2] (50,000 L/ha/d) (L/s)	Institutional Peak Flow Rate[2] (50,000 L/ha/d) (L/s)	Infiltration / Inflow Rate (0.28 L/s/ha) (L/s)	Commercial (L/s)	Institutional (L/s)	Infiltration / Inflow (L/s)	Residential Peak Flow Rate (350 L/cap/d) (L/s)	Cumulative Peak Design Flow (L/s)	Length (m)	Pipe Size (mm)	Type	Slope %	Capacity (L/s)	Full Flow Velocity (m/s)	Ratio (Q/Qfull)
MHSA 1	MHSA 2	90	192.79	17.25	174.17	0.00	384.21	1678	20110	20110	2.65	167.352	14.97	107.58	167.4	15.0	107.6	215.9	505.8	57.3	900	CONC	0.10	597.2	0.91	85%
MHSA 2	MHSA 3	90																	505.8	57.3	900	CONC	0.10	597.2	0.91	85%
MHSA 3	MHSA 4	90																	505.8	73.9	900	CONC	0.10	597.2	0.91	85%
MHSA 4	MHSA 5	90																	505.8	34.6	900	CONC	0.10	597.2	0.91	85%
MHSA 5	MHSA 6	90																	505.8	42.8	900	CONC	0.10	597.2	0.91	85%
MHSA 6	MHSA 7	90																	505.8	84.4	900	CONC	0.10	597.2	0.91	85%
MHSA 7	MHSA 8	90																	505.8	16.5	900	CONC	0.10	597.2	0.91	85%
MHSA 8	MHSA 9	90																	505.8	85.4	900	CONC	0.10	597.2	0.91	85%
MHSA 9	MHSA 10	90																	505.8	70.6	900	CONC	0.10	597.2	0.91	85%
MHSA 10	MHSA 11	90																	505.8	70.6	900	CONC	0.10	597.2	0.91	85%
MHSA 11	MHSA 12	90																	505.8	77.8	900	CONC	0.10	597.2	0.91	85%
MHSA 12	MHSA 13	90																	505.8	77.8	900	CONC	0.10	597.2	0.91	85%
MHSA 13	MHSA 14	90																	505.8	77.8	900	CONC	0.10	597.2	0.91	85%
MHSA 14	MHSA 15	90																	505.8	25.4	900	CONC	0.10	597.2	0.91	85%
MHSA 15	MHSA 16	90																	505.8	34.2	900	CONC	0.10	597.2	0.91	85%
MHSA 16	MHSA 17	90																	505.8	86.7	900	CONC	0.10	597.2	0.91	85%
MHSA 17	MHSA 18	90																	505.8	34.3	900	CONC	0.10	597.2	0.91	85%
MHSA 18	MHSA 19	90																	505.8	68.6	900	CONC	0.10	597.2	0.91	85%
MHSA 19	MHSA 20	90																	505.8	65.5	900	CONC	0.10	597.2	0.91	85%
MHSA 20	MHSA 21	80	221.24	27.77	230.38	14.34	493.73	256	7351	27461	2.52	192.049	24.11	138.24	192.0	24.1	138.2	279.8	634.2	18.2	1050	CONC	0.10	900.9	1.01	70%
MHSA 21	MHSA 22	80																	634.2	81.9	1050	CONC	0.10	900.9	1.01	70%
MHSA 22	MHSA 23	80																	634.2	84.7	1050	CONC	0.10	900.9	1.01	70%
MHSA 23	MHSA 24	80																	634.2	77.4	1050	CONC	0.10	900.9	1.01	70%
MHSA 24	MHSA 25	80																	634.2	45.5	1050	CONC	0.10	900.9	1.01	70%
MHSA 25	MHSA 26	80																	634.2	35.8	1050	CONC	0.10	900.9	1.01	70%
MHSA 26	MHSA 27	80																	634.2	83.3	1050	CONC	0.10	900.9	1.01	70%
MHSA 27	MHSA 28	80																	634.2	74.4	1050	CONC	0.10	900.9	1.01	70%
MHSA 28	MHSA 29	80																	634.2	77.3	1050	CONC	0.10	900.9	1.01	70%
MHSA 29	MHSA 30	80																	634.2	83.8	1050	CONC	0.10	900.9	1.01	70%
MHSA 30	MHSA 31	80																	634.2	42.3	1050	CONC	0.10	900.9	1.01	70%
MHSA 31	MHSA 32	80																	634.2	100.6	1050	CONC	0.10	900.9	1.01	70%
MHSA 32	MHSA 33	80																	634.2	13.9	1050	CONC	0.10	900.9	1.01	70%
MHSA 33	MHSA 34	80																	634.2	99.9	1050	CONC	0.10	900.9	1.01	70%
MHSA 34	MHSA 35	80																	634.2	99.9	1050	CONC	0.10	900.9	1.01	70%
MHSA 35	MHSA 36	80																	634.2	88.7	1050	CONC	0.10	900.9	1.01	70%
MHSA 36	MHSA 37	80																	634.2	88.8	1050	CONC	0.10	900.9	1.01	70%
MHSA 37	MHSA 38	80																	634.2	90.3	1050	CONC	0.10	900.9	1.01	70%
MHSA 38	MHSA 39	80																	634.2	87.5	1050	CONC	0.10	900.9	1.01	70%

Design Parameters:

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles / semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row / townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = $1 + [14 / (4+(P/1000)^{1/2})] \times K$

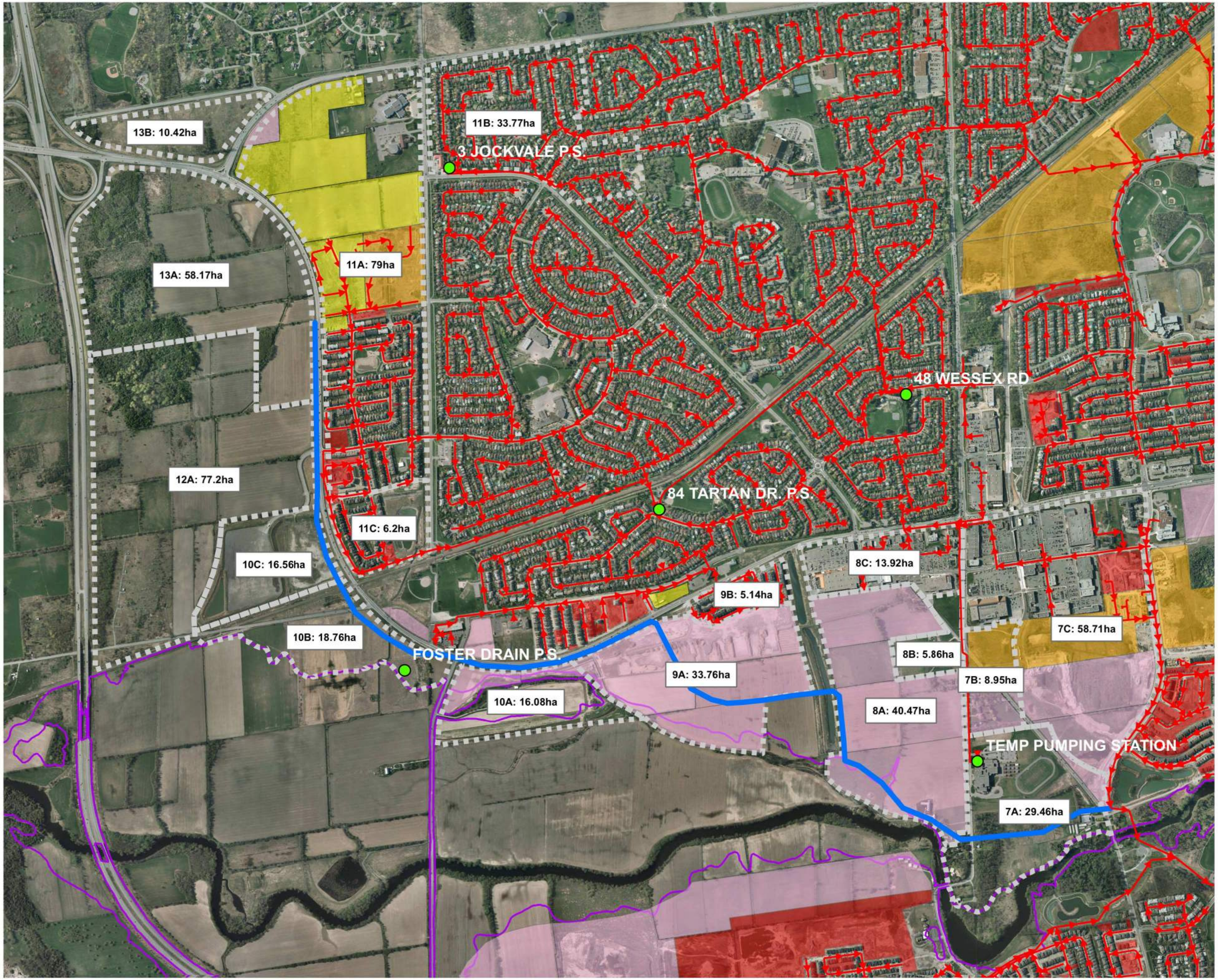
Where: P = population; K = correction factor = 1.0

2. Instituional / Commercial Peaking Factor = 1.5

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station to be redirected to SNC

2. Area A8-D: proposed 600 medium density residential units



City of Ottawa
South Nepean Collector

Figure 01
Existing Sanitary Network and Collection Areas

- Pump Station
- Existing Sanitary Main (With Flow Direction)
- Proposed Alignment for South Nepean Collector
- Collection Area

DEVELOPMENT STATUS

- Registered
- Draft Approved
- Pending
- No Plan
- Floodplain

NOT TO SCALE

MAP DRAWING INFORMATION:
DATA PROVIDED BY THE CITY OF OTTAWA

MAP CREATED BY: BC
MAP CHECKED BY: MBM
MAP PROJECTION: NO PROJECTION

FILE LOCATION: \\Dillon.ca\dillon_dfs\Ottawa\Ottawa CA\CAD\2011\115681\Design_GIS\MXD\Figure01c_ExistingSanitaryNetwork.mxd

DILLON CONSULTING

PROJECT: 11-5681
STATUS: FINAL
DATE: 18/07/12

Table 5.1: Allocation of Commercial/Institutional and Residential Demands to SNC by Collection Area

Collection Area	Discharging Node	Estimated from GIS			City of Ottawa VURL Data			Other Space [1] (ha)	Population (PE)	Residential Density (PE/net ha)	Comments	Additional Source(s)
		Gross Institutional/Commercial (ha)	Gross Residential (ha)	Gross Area (ha)	Net Residential (ha)	Units (#)	Unit Density (#/ha)					
7A	70	13.5	7.4	29.5	4.0	605	0.3	9.1	1637	4.25	Flow calculations include St Joseph H.S. Pump Station firm capacity of 7.0 L/s Additional 600 units (TAC)	3.4ppu (TAC)
7B		0.0	9.24	9.24	6.23	1474	136.7	3.0	3321	638.8	Population from split VURL allocated by area. VURL parcel id 323 - inconsistency between net and gross reported area.	2.7ppu (TAC)
8A		0.0	40.0	40.0	24.1	4462	185.1	15.9	12047.4	499.9		2.7ppu (TAC)
8B		5.9	0.0	5.9	0.0	0	0	0.0			Future Commercial area	
8C		13.9	0.0	13.9	0.0	0	0	0.0			Commercial area includes Home Depot	
9A	80	0.0	33.8	33.8	18.6	635	34.1	15.2	2210	116.2		3.4ppu (TAC)
10A	90	0.0	16.1	16.1	9.7	451	28.0	6.4	1533.4	158.0	Assume net population = 60% gross.	3.4ppu (TAC)
10B	100	18.8	0.0	35.3	0.0	0	0	16.5			Allocated as potential future I/C use as directed by TAC	
10C	110	16.6	0.0	35.3	0.0	0	0	18.7			Area includes current Municipal Snow Dump. Flow allowance is made for potential future I/C use	
11C		0.0	6.2	6.2	Note 2			2.5	306	82.7	This area is south of '11 block' in the existing development	From IBI Apr 2010 Report Figure 1
11A	120	12.5	66.5	79.0				26.6	3923	98.3	Institutional includes 4.38ha church site and 6.89 ha institution at northeast corner, as well and Claridge Commercial (0.56ha) and DCR/Phoenix Commercial (0.64ha)	From IBI Apr2010 Report Figure 1
11B		0.0	37.0	37.0				14.8	1550	69.8	Presently serviced by Jockvale pump station; to be redirected to SNC.	Estimated from 2011 Census Block data
12A		77.2	0.0	77.2				0.0			Allow sanitary peak flow 79.0 L/s	Novatech, Employment Lands Report, Revised Jan 2012
13A	130	58.5	0.0	58.5				0.0			Allow sanitary peak flow 62.8 L/s plus Collection Area 13B, total 82.2 L/s	
13B		12.5	0.0	12.5				0.0			Allow sanitary peak flow 19.4 L/s; gravity discharge to Collection Area 13A	IBI/Novatech

Notes:
1. Other space includes other residential space accounting for the difference between gross area (measured with GIS) and net area (provided in VURL data), such as sidewalks, roads, greenspace, etc.
2. Collection Area 11A and 11B population and land use as identified under Additional Source(s). Other space reported as 60% of gross residential area, consistent with VURL average.

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2012 Operational current day

CITY OF OTTAWA

SOUTH NEPEAN COLLECTOR SEWER

SANITARY SEWER DESIGN SHEET - Operational Service (Average Flow Design Parameters)

TRIBUTARY AREA	Design Factors	LOCATION FROM	LOCATION TO	AREA (ha) Gross ICI	Net ICI	Other ICI space (Green, Sidewalks, roads)	Gross RESIDENTIAL Area	Net Residential Area	Other Res (Green, Sidewalks, roads)	TOTAL AREA (Gross ICI plus Gross Residential)	INDIVIDUAL POP	DENSITY (po./ha.)	CUMULATIVE POP	AREA (ha.)	RESIDENTIAL PEAKING FACTOR	RESIDENT. FLOW (L/s)	COMMERCIAL & INSTITUTION PEAKING FACTOR	CUM. AREA	I.C.I. FLOW (l/s)	INFIL. INFLOW Q(p) (L/s)	PEAK DESIGN FLOW Q(d) (L/s)
13A	1			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		0	0.0	4.50	0.00	1.00	0.00	0.00	0.00	0.00
13B	1		Node 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		0	0.0	4.50	0.00	1.00	0.00	0.00	0.00	0.00
12A	1	Node 130		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		0	0.0	4.50	0.00	1.00	0.00	0.00	0.00	0.00
11A	1			12.5	9.4	3.1	66.5	8.0	58.5	79.0	1196	148.76	1196	79.0	3.75	15.57	1.00	12.50	2.00	3.95	21.52
11B	1		Node 120	0.0	0.0	0.0	37.0	22.2	14.8	37.0	1550	69.82	2746	116.0	3.47	33.13	1.00	12.50	2.00	5.80	40.93
11C	1	Node 120		0.0	0.0	0.0	6.2	3.7	2.5	6.2	306	82.26	3052	122.2	3.44	36.41	1.00	12.50	2.00	6.11	44.52
10C	1		Node 110	16.6	12.5	4.2	0.0	0.0	0.0	16.6	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01
10B	1	Node 110	Node 100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01
10A	1	Node 100	Node 90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01
9A	1	Node 90	Node 80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01
8A	1	Node 80		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01
8B	1			5.9	4.4	1.5	0.0	0.0	0.0	5.9	0		3052	144.7	3.44	36.41	1.00	35.00	5.60	7.24	49.25
8C	1			13.9	10.4	3.5	0.0	0.0	0.0	13.9	0		3052	158.6	3.44	36.41	1.00	48.90	7.82	7.93	52.17
7A	1			13.5	10.1	3.4	16.0	1.4	14.6	29.5	17	12.14	3069	188.1	3.43	36.59	1.00	62.40	9.98	9.41	55.93
7B	1		Node 70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3069	188.1	3.43	36.59	1.00	62.40	9.98	9.41	55.93
										188.1											

TRIBUTARY AREA	PROPOSED SEWER LENGTH (m)	GROUND ELEVATION (m)	DEPTH OF COVER (m)	PIPE SIZE (m)	INVERT 1 (m)	INVERT 2 (m)	PIPE TYPE	GRADE	CAPACITY (L/s)	Q(d)/Q(c)	VELOCITY at capacity (m/s)	OPERATIONAL DESIGN DEPTH (m)	VELOCITY (m/s)
13A													
13B		95.14	5.43	0.750		88.96							
12A													
11A													
11B	531.89	93.60	4.42	0.750	88.96	88.43	Conc.	0.10%	353.24	0.13	0.80	0.20	0.58
11C													
10C	497.82	93.44	4.76	0.750	88.43	87.93	Conc.	0.10%	353.24	0.14	0.80	0.20	0.58
10B	603.17	93.03	4.95	0.750	87.93	87.33	Conc.	0.10%	353.24	0.14	0.80	0.20	0.58
10A	430.49	93.75	6.03	0.825	87.33	86.90	Conc.	0.10%	455.17	0.11	0.85	0.21	0.61
9A	1268.65	92.37	5.84	0.900	86.90	85.63	Conc.	0.10%	573.71	0.08	0.90	0.18	0.56
8A													
8B													
8C													
7A													
7B	1448.98	91.24	6.01	1.050	85.63	84.18	Conc.	0.10%	864.51	0.06	1.00	0.18	0.56

DEFAULTS

q=AVERAGE DAILY FLOW	300	L/CAP.D
I=UNIT OF PEAK EXTR.FLOW	0.050	L/Ha.s
Mannings 'n'	0.013	
q=AVERAGE COMMERCIAL AND INSTITUTIONAL	0.16	L/Ha.s

DESIGN	DJG
CHECKED	
TODAY:	7/18/2012

DILLON CONSULTING

Project 11-5681

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2012 Full Service (Peak)

CITY OF OTTAWA

SOUTH NEPEAN COLLECTOR SEWER

SANITARY SEWER DESIGN SHEET - Full Service (Peak Flow Design Parameters)

Sheet 1 of 1

TRIBUTARY AREA		LOCATION		AREA (ha)							INDIVIDUAL		CUMULATIVE		RESIDENTIAL		COMMERCIAL & INSTITUTION			INFIL. INFLOW	PEAK DESIGN
	Design Factors	FROM	TO	Gross ICI	Net ICI	Other ICI space (Green, Sidewalks, roads)	Gross RESIDENTIAL Area	Net Residential Area	Other Res (Sidewalks, roads)	TOTAL AREA (Gross ICI plus Gross Residential)	POP	DENSITY	POP	Total I/C and Res AREA	PEAKING FACTOR	RESIDENT. FLOW	PEAKING FACTOR	I/C CUM. AREA	I/C FLOW (l/s)	Q(p)	FLOW Q(d)
												(pers/net ha.)		(ha.)		(L/s)				(L/s)	(L/s)
13A	1			58.5	43.9	14.6	0.0	0.0	0.0	58.5	0		0	58.5	4.50	0.00	1.50	58.50	50.90	16.38	67.28
13B	1		Node 130	12.5	9.4	3.1	0.0	0.0	0.0	12.5	0		0	71.0	4.50	0.00	1.50	71.00	61.77	19.88	81.65
12A	1	Node 130		77.2	57.9	19.3	0.0	0.0	0.0	77.2	0		0	148.2	4.50	0.00	1.50	148.20	128.93	41.50	170.43
11A	1			12.5	9.4	3.1	66.5	39.9	26.6	79.0	3923	98.32	3923	227.2	3.34	53.09	1.50	160.70	139.81	63.62	256.52
11B	1		Node 120	0.0	0.0	0.0	37.0	22.2	14.8	37.0	1550	69.82	5473	264.2	3.21	71.13	1.50	160.70	139.81	73.98	284.92
11C		Node 120		0.0	0.0	0.0	6.2	3.7	2.5	6.2	306	82.26	5779	270.4	3.19	74.59	1.50	160.70	139.81	75.71	290.11
10C	1		Node 110	16.6	12.5	4.2	0.0	0.0	0.0	16.6	0		5779	287.0	3.19	74.59	1.50	177.30	154.25	80.36	309.20
10B	1	Node 110	Node 100	18.8	14.1	4.7	0.0	0.0	0.0	18.8	0		5779	305.8	3.19	74.59	1.50	196.10	170.61	85.62	330.82
10A	1	Node 100	Node 90	0.0	0.0	0.0	16.1	9.7	6.4	16.1	1533	158.04	7312	321.9	3.09	91.48	1.50	196.10	170.61	90.13	352.22
9A	1	Node 90	Node 80	0.0	0.0	0.0	33.8	18.6	15.2	33.8	2161	116.18	9473	355.7	2.98	114.28	1.50	196.10	170.61	99.60	384.48
8A	1	Node 80		0.0	0.0	0.0	40.0	24.1	15.9	40.0	12047	499.88	21520	395.7	2.62	228.45	1.50	196.10	170.61	110.80	509.85
8B	1			5.9	4.4	1.5	0.0	0.0	0.0	5.9	0		21520	401.6	2.62	228.45	1.50	202.00	175.74	112.45	516.64
8C	1			13.9	10.4	3.5	0.0	0.0	0.0	13.9	0		21520	415.5	2.62	228.45	1.50	215.90	187.83	116.34	532.62
7A	1			13.5	10.1	3.4	16.5	5.2	11.3	30.0	1637	314.81	23157	445.5	2.59	242.84	1.50	229.40	199.58	124.74	567.16
7B	1		Node 70	0.0	0.0	0.0	9.2	6.2	3.0	9.2	3980	638.84	27137	454.7	2.52	277.05	1.50	229.40	199.58	127.32	603.94
							225.3	129.7		454.7	27,137.0										

TRIBUTARY AREA						PROPOSED SEWER					PEAK DESIGN	
	LENGTH	GROUND ELEVATION	DEPTH OF COVER	PIPE SIZE	INVERT 1	INVERT 2	PIPE TYPE	GRADE	CAPACITY	Q(d)/Q(c)	VELOCITY at capacity	DEPTH	VELOCITY
	(m)	(m)	(m)	(m)	(m)	(m)			(L/s)		(m/s)	(m)	(m/s)
13A													
13B		95.14	5.43	0.750		88.96							
12A													
11A													
11B	531.89	93.60	4.42	0.750	88.96	88.43	Conc.	0.10%	353.24	0.81	0.80	0.53	0.90
11C													
10C	497.82	93.44	4.76	0.750	88.43	87.93	Conc.	0.10%	353.24	0.88	0.80	0.55	0.91
10B	603.17	93.03	4.95	0.750	87.93	87.33	Conc.	0.10%	353.24	0.94	0.80	0.58	0.92
10A	430.49	93.75	6.03	0.825	87.33	86.90	Conc.	0.10%	455.17	0.77	0.85	0.55	0.95
9A	1268.65	92.37	5.84	0.900	86.90	85.63	Conc.	0.10%	573.71	0.67	0.90	0.55	0.97
8A													
8B													
8C													
7A													
7B	1448.98	91.24	6.01	1.050	85.63	84.18	Conc.	0.10%	864.51	0.70	1.00	0.64	1.07
	4,781.0												

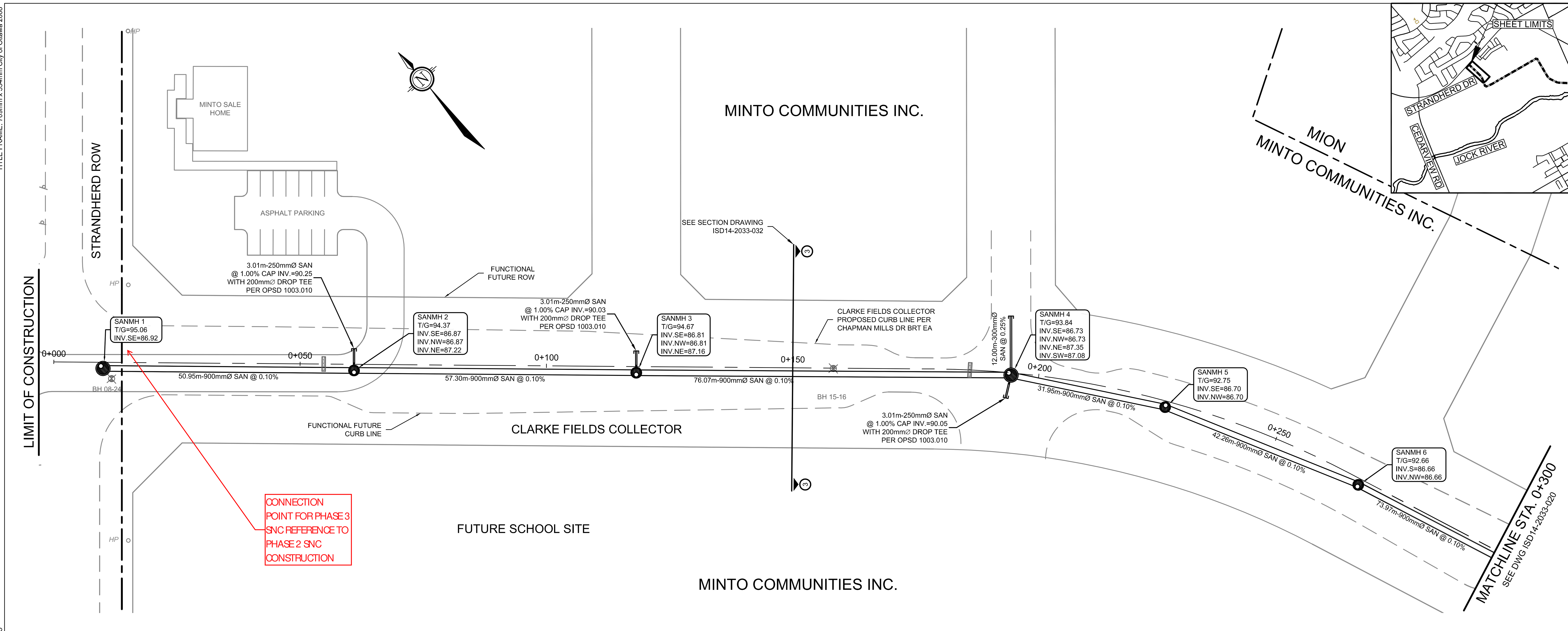
DEFAULTS

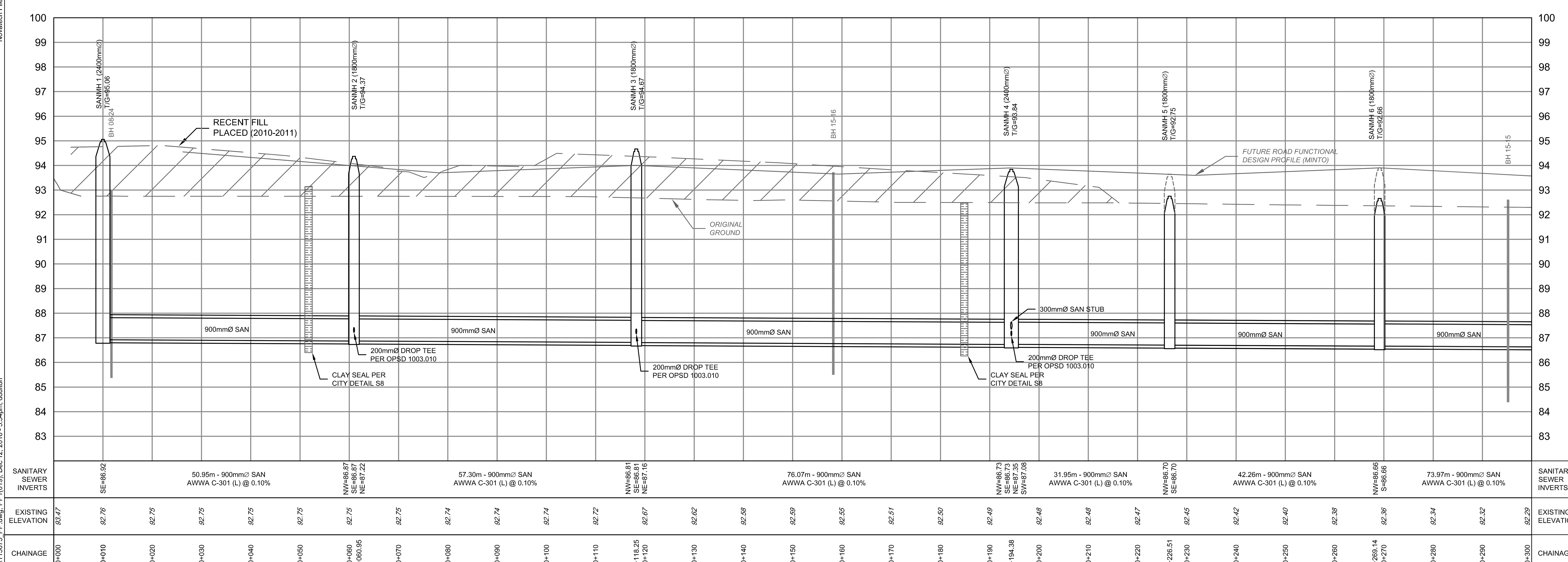
q=AVERAGE DAILY FLOW	350	L/CAP.D
I=UNIT OF PEAK EXTR.FLOW	0.280	L/Ha.s
Mannings 'n'	0.013	
q=AVERAGE COMMERCIAL AND INSTITUTIONAL	0.58	L/Ha.s

DESIGN	DJG
CHECKED	
TODAY:	7/18/2012

DILLON CONSULTING

Project 11-5681





CITY OF OTTAWA

SOUTH NEPEAN COLLECTOR (SNC)
SEWER PHASE 2 - STRANDHERD DRIVE
TO JOCKVALE ROAD

PLAN AND PROFILE
STA. 0+000 TO 0+300

WAYNE NEWELL, P.Eng. — General Manager
JONATHAN KNOYLE, P.Eng. — Senior Engineer

NOVATECH
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Suite 200, 240 Michael Cowpland Drive
Kanata, Ontario, Canada, K2M 1P6
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Facsimile: (613) 254-5867
Email: novainfo@novatech-eng.com

LICENSED PROFESSIONAL ENGINEER
M.A. BISSETT
PROVINCE OF ONTARIO

Ottawa

Contract No. ISD14-2033
Dwg. No. 019
Sheet 19 of 51
Asset No.
Asset Group ISD
Des. RJD — Chk'd. ERD
Dwn. NCS — Chk'd. RJD
Utility Circ. No.
Index No.
Const. Inspector
Scale: HORIZONTAL 1:500, VERTICAL 1:100

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

REVISIONS

No.	Description	By	Date (dd/mm/yy)
1.	ISSUED FOR PRELIMINARY DESIGN CIRCULATION	ERD	21/12/15
2.	CHANGES TO ORIENTATION ACROSS KB SWM FACILITY	ERD	16/02/16
3.	ISSUED FOR PRELIMINARY DESIGN REPORT	ERD	02/03/16
4.	ISSUED FOR FINAL DESIGN CIRCULATION	ERD	29/04/16
5.	ISSUED FOR MOECC ECA APPLICATION	ERD	26/05/16
6.	ISSUED FOR TENDER	ERD	20/06/16
7.	ISSUED FOR CONSTRUCTION	ERD	30/08/16
8.	SEWER ALIGNMENT SHIFT ON GREENBANK	ERD	16/09/16
9.	REVISED PER MION SERVICING	ERD	08/12/16

LEGEND

EXISTING ITEMS
- WATERMAIN
- WATERMAIN VALVE
- STORM SEWER
- STORM MH (STM)
- CATCH BASIN & LEAD (CB)
- CULVERT
- STORM STRUCTURE
- SANITARY SEWER
- SANITARY MH (SAN)

PROPOSED ITEMS
- SANITARY SEWER
- SANITARY MH & LID
- CULVERT
- FUTURE STRUCTURE T/G ADJUSTMENT

NOTES:

1. CONCRETE PRESSURE PIPE SHALL BE AWWA C301 (L) CL-16. FITTING SHALL BE DESIGNED TO THE SAME CRITERIA AS THE ADJACENT PIPE.
2. CONTRACTOR TO PROVIDE PIPE CLASS CALCULATIONS, AS PER AWWA C304 (DESIGN OF PRESTRESSED CONCRETE CYLINDER PIPE), BY THE PIPE MANUFACTURER, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
3. PIPE EMBEDMENT SHALL BE AS PER CITY OF OTTAWA DETAIL S6. SAND MAY BE USED AS PIPE COVER MATERIAL ABOVE THE SPRINGLINE.
4. A CLOTH DIAPER APPROVED BY THE PIPE MANUFACTURE SHALL BE PLACED AROUND EACH EXTERIOR JOIN RECESS AND FASTENED IN PLACE WITH EITHER WIRE OR STEEL STRAPPING STITCHED INTO ITS EDGES.
5. THE JOINT SHALL BE FILLED WITH MORTAR IN ONCE CONTINUOUS OPERATION AND PATTED OR MANIPULATED TO SETTLE THE MORTAR AND EXPEL AND ENTRAPPED AIR.
6. INTERIOR JOINTS SHALL BE FILLED WITH MORTAR AFTER BACKFILLING AND FINISHED SMOOTH WITH A TROWEL. CEMENT USED SHALL MEET THE REQUIREMENTS OF TYPE HS CEMENT (HIGH-SULPHATE-RESISTANCE), OR APPROVED EQUIVALENT.
7. THE INTERIOR OF THE JOINTS SHALL BE PROTECTED FROM CORROSION WITH EPOXY AND ZINC COATING APPLIED DURING FABRICATION.
8. THE INTERIOR STRUCTURAL CONCRETE CORE SHALL BE MANUFACTURED WITH TYPE HS CEMENT (HIGH-SULPHATE-RESITANCE), OR APPROVED EQUIVALENT.
9. SEE MANHOLE DETAIL DRAWINGS ISD14-2033-36 TO ISD14-2033-45 FOR ADDITIONAL DETAILS

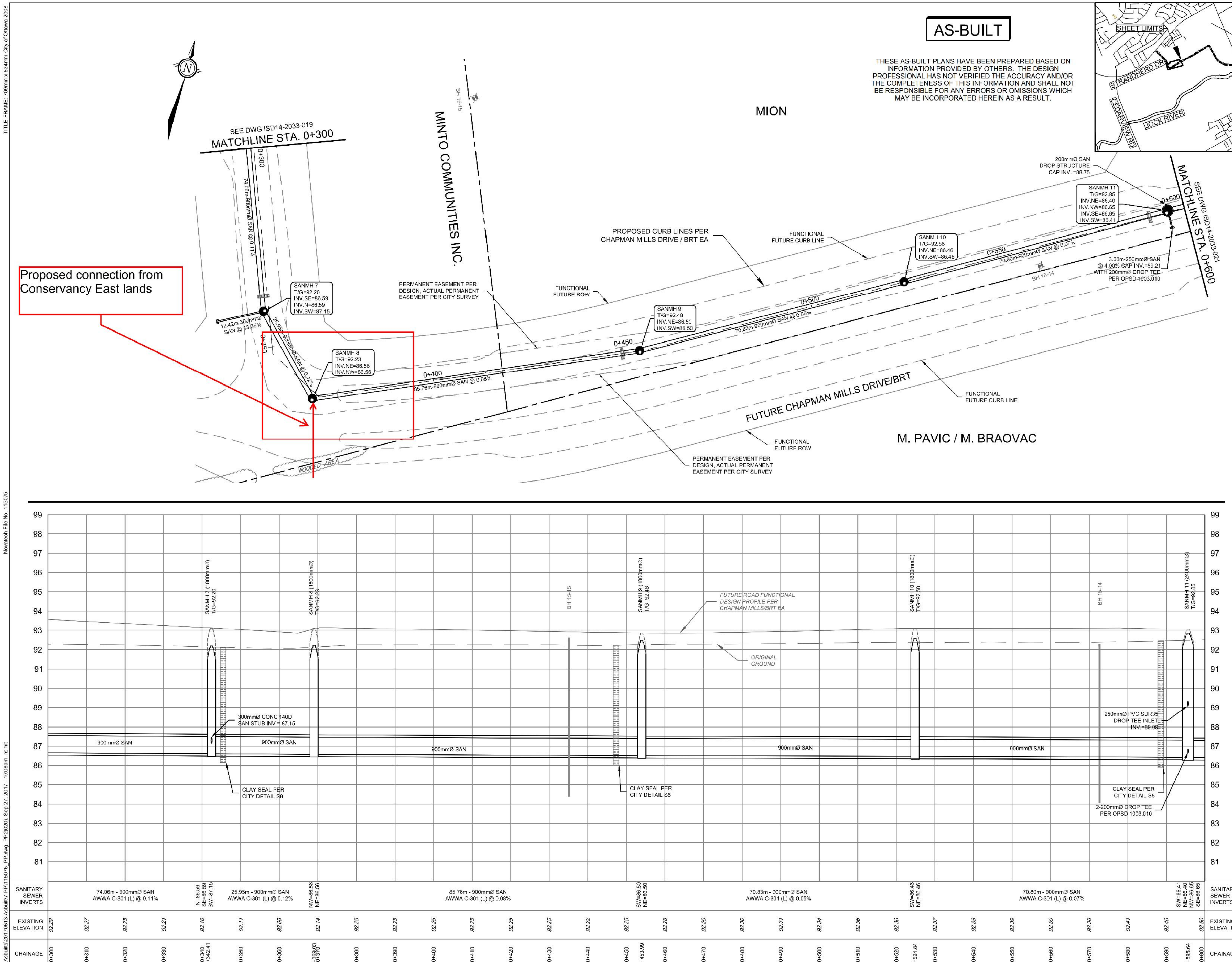
MAINTENANCE HOLE DATA

MH ID	STATION	OFFSET	STRUCTURE	COVER	T/G ELEV	LOW. INV.
1	0+010.00	1.25R	OPSD 701.013	S24/S25	95.06	86.92
2	0+060.95	1.25R	OPSD 701.012	S24/S25	94.37	86.87
3	0+118.25	1.25R	OPSD 701.012	S24/S25	94.67	86.81
4	0+194.38	0.46R	OPSD 701.013	S24/S25	93.84	86.73
5	0+226.51	1.25R	OPSD 701.012	S24/S25	92.75	86.70
6	0+269.14	1.25R	OPSD 701.012	S24/S25	92.66	86.66

SANITARY SEWER PIPE DATA

CONNECTED STRUCTURES & INVERTS	DIA (mm)	LENGTH (m)	MATERIAL
SANMH 1 = 86.92 SANMH 2 = 86.87	900	50.95	AWWA C-301 (L)
SANMH 2 = 86.87 SANMH 3 = 86.81	900	57.30	AWWA C-301 (L)
SANMH 3 = 86.81 SANMH 4 = 86.73	900	76.07	AWWA C-301 (L)
SANMH 5 = 86.70 SANMH 4 = 86.73	900	31.95	AWWA C-301 (L)
SANMH 5 = 86.70 SANMH 6 = 86.66	900	42.26	AWWA C-301 (L)
SANMH 6 = 86.66 SANMH 7 = 86.59	900	73.97	AWWA C-301 (L)

TITLE FRAME: 709mm x 534mm City of Ottawa 2008
Novatech File No. 115075
M:\2015\115075\CAD\Design\115075_PP.dwg, PP1(019), Dec 12, 2016 - 5:54pm, ddufton



CITY OF OTTAWA

SOUTH NEPEAN COLLECTOR (SNC) SEWER PHASE 2 - STRANDHERD DRIVE TO JOCKVALE ROAD

PLAN AND PROFILE STA. 0+300 TO 0+600

WAYNE NEWELL, P.Eng. *General Manager*	JONATHAN KNOYLE, P.Eng. *Senior Engineer*

NOVATECH Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Kanata, Ontario, Canada, K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Email: novainfo@novatech-eng.com

Ottawa

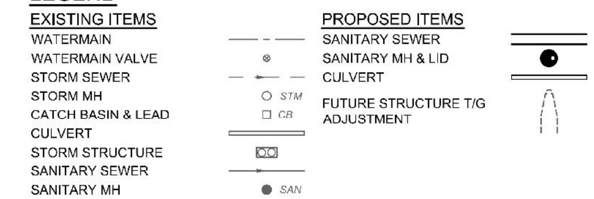
Contract No. ISD14-2033	Dwg. No. 020
Sheet 20 of 51	
Asset No.	
Asset Group ISD	
Des. RJD	Chk'd. ERD
Dwn. NCS	Chk'd. RJD
Utility Circ. No.	Index No.
Const. Inspector	
Scale: HORIZONTAL 1:500 / VERTICAL 1:100	

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

REVISIONS

No.	Description	By	Date (dd/mm/yy)
1.	ISSUED FOR PRELIMINARY DESIGN CIRCULATION	ERD	21/12/15
2.	CHANGES TO ORIENTATION ACROSS KB SWM FACILITY	ERD	16/02/16
3.	ISSUED FOR PRELIMINARY DESIGN REPORT	ERD	02/03/16
4.	ISSUED FOR FINAL DESIGN CIRCULATION	ERD	29/04/16
5.	ISSUED FOR MOECC ECA APPLICATION	ERD	26/05/16
6.	ISSUED FOR TENDER	ERD	20/06/16
7.	ISSUED FOR CONSTRUCTION	ERD	30/08/16
8.	SEWER ALIGNMENT SHIFT ON GREENBANK	ERD	16/09/16
9.	REVISED PER MION SERVICING	ERD	08/12/16
10.	MINTO LANDS MANHOLE UPDATE	ERD	24/04/17
11.	ISSUED FOR AS-BUILT	ERD	28/09/17

LEGEND



NOTES:

1. CONCRETE PRESSURE PIPE SHALL BE AWWA C301 (L) CL-16. FITTING SHALL BE DESIGNED TO THE SAME CRITERIA AS THE ADJACENT PIPE.
2. CONTRACTOR TO PROVIDE PIPE CLASS CALCULATIONS, AS PER AWWA C304 (DESIGN OF PRESTRESSED CONCRETE CYLINDER PIPE), BY THE PIPE MANUFACTURER, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
3. PIPE EMBEDMENT SHALL BE AS PER CITY OF OTTAWA DETAIL S6. SAND MAY BE USED AS PIPE COVER MATERIAL ABOVE THE SPRINGLINE.
4. A CLOTH DIAPER APPROVED BY THE PIPE MANUFACTURE SHALL BE PLACED AROUND EACH EXTERIOR JOIN RECESS AND FASTENED IN PLACE WITH EITHER WIRE OR STEEL STRAPPING STITCHED INTO ITS EDGES.
5. THE JOINT SHALL BE FILLED WITH MORTAR IN ONCE CONTINUOUS OPERATION AND PATTED OR MANIPULATED TO SETTLE THE MORTAR AND EXPEL AND ENTRAPPED AIR.
6. INTERIOR JOINTS SHALL BE FILLED WITH MORTAR AFTER BACKFILLING AND FINISHED SMOOTH WITH A TROWEL. CEMENT USED SHALL MEET THE REQUIREMENTS OF TYPE HS CEMENT (HIGH-SULPHATE-RESISTANCE), OR APPROVED EQUIVALENT.
7. THE INTERIOR OF THE JOINTS SHALL BE PROTECTED FROM CORROSION WITH EPOXY AND ZINC COATING APPLIED DURING FABRICATION.
8. THE INTERIOR STRUCTURAL CONCRETE CORE SHALL BE MANUFACTURED WITH TYPE HS CEMENT (HIGH-SULPHATE-RESITANCE), OR APPROVED EQUIVALENT.
9. SEE MANHOLE DETAIL DRAWINGS ISD14-2033-36 TO ISD14-2033-45 FOR ADDITIONAL DETAILS

MAINTENANCE HOLE DATA

MH ID	STATION	OFFSET	STRUCTURE	COVER	T/G ELEV	LOW. INV.
7	0+342.41	1.41R	OPSD 701.012	S24/S25	92.20	86.59
8	0+369.03	1.50R	OPSD 701.012	S24/S25	92.23	86.56
9	0+453.99	0.07L	OPSD 701.012	S24/S25	92.48	86.50
10	0+524.84	0.04L	OPSD 701.012	S24/S25	92.58	86.46
11	0+595.64	0.41L	OPSD 701.013	S24/S25	92.85	86.40

SANITARY SEWER PIPE DATA

CONNECTED STRUCTURES & INVERTS	DIA (mm)	LENGTH (m)	MATERIAL
SANMH 6 = 86.68 SANMH 7 = 86.59	900	74.06	AWWA C-301 (L)
SANMH 7 = 86.59 SANMH 8 = 86.56	900	25.95	AWWA C-301 (L)
SANMH 8 = 86.56 SANMH 9 = 86.50	900	85.76	AWWA C-301 (L)
SANMH 10 = 86.46 SANMH 9 = 86.50	900	70.83	AWWA C-301 (L)
SANMH 10 = 86.46 SANMH 11 = 86.41	900	70.80	AWWA C-301 (L)
SANMH 11 = 86.40 SANMH 12 = 86.32	900	78.15	AWWA C-301 (L)

Design Sheet for Conservancy East detailed design.

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	UNITS Singles	UNITS Townhouse	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Ainsworth Crescent																													
	80A	81A	0.51	10	10		34	0.51	34	3.68	0.41		0.00		0.00		0.00	0.00	0.51	0.51	0.17	0.57	69.0	200	0.65	26.44	0.02	0.84	0.34
	81A	82A	0.38	11	11		38	0.89	72	3.62	0.85		0.00		0.00		0.00	0.00	0.38	0.89	0.29	1.14	70.0	250	0.25	29.73	0.04	0.61	0.29
To Sapling Grove, Pipe 82A - 85A								0.89	72				0.00		0.00		0.00			0.89									
	78A	59A	0.07	1	1		4	0.07	4	3.76	0.05		0.00		0.00		0.00	0.00	0.07	0.07	0.02	0.07	13.0	200	0.65	26.44	0.00	0.84	0.17
	59A	60A	0.45	11	11		38	0.52	42	3.66	0.50		0.00		0.00		0.00	0.00	0.45	0.52	0.17	0.67	76.0	250	0.25	29.73	0.02	0.61	0.24
	60A	61A	0.41	12	12		41	0.93	83	3.61	0.97		0.00		0.00		0.00	0.00	0.41	0.93	0.31	1.28	75.0	250	0.25	29.73	0.04	0.61	0.30
To Sapling Grove, Pipe 61A - 82A								0.93	83				0.00		0.00		0.00			0.93									
Syringa Court																													
	55A	56A	0.14	2	2		7	0.14	7	3.74	0.08		0.00		0.00		0.00	0.00	0.14	0.14	0.05	0.13	11.0	200	0.65	26.44	0.00	0.84	0.22
	56A	57A	0.42	11	11		38	0.56	45	3.66	0.53		0.00		0.00		0.00	0.00	0.42	0.56	0.18	0.72	67.0	250	0.65	47.94	0.01	0.98	0.35
	57A	58A	0.34	10	10		34	0.90	79	3.62	0.93		0.00		0.00		0.00	0.00	0.34	0.90	0.30	1.22	67.5	250	0.25	29.73	0.04	0.61	0.29
To Sapling Grove, Pipe 58A - 61A								0.90	79				0.00		0.00		0.00			0.90									
	55A	53A	0.17	3	3		11	0.17	11	3.73	0.13		0.00		0.00		0.00	0.00	0.17	0.17	0.06	0.19	45.5	200	0.65	26.44	0.01	0.84	0.24
	53A	49A	0.08	1	1		4	0.25	15	3.72	0.18		0.00		0.00		0.00	0.00	0.08	0.25	0.08	0.26	9.0	250	0.25	29.73	0.01	0.61	0.18
	49A	50A	0.44	11	11		38	0.69	53	3.65	0.63		0.00		0.00		0.00	0.00	0.44	0.69	0.23	0.85	68.5	250	0.25	29.73	0.03	0.61	0.27
	50A	51A	0.34	10	10		34	1.03	87	3.61	1.02		0.00		0.00		0.00	0.00	0.34	1.03	0.34	1.36	66.5	250	0.25	29.73	0.05	0.61	0.31
To Sapling Grove, Pipe 51A - 58A								1.03	87				0.00		0.00		0.00			1.03									
Ecology Lane																													
	880A	88A	0.44	10	10		34	0.44	34	3.68	0.41		0.00		0.00		0.00	0.00	0.44	0.44	0.15	0.55	76.0	200	0.65	26.44	0.02	0.84	0.33
Contribution From Sapling Grove, Pipe 85A - 88A								5.48	453				0.00		0.00		0.00		5.48	5.92									
	88A	91A	0.18	4	4		14	6.10	501	3.38	5.49		0.00		0.00		0.00	0.00	0.18	6.10	2.01	7.50	60.0	250	0.25	29.73	0.25	0.61	0.50
Contribution From Peninsula Road, Pipe 90A - 91A								0.78	79				0.00		0.00		0.00		0.78	6.88									
	91A	92A	0.08				0	6.96	580	3.35	6.30		0.00		0.00		0.00	0.00	0.08	6.96	2.30	8.60	62.5	250	0.25	29.73	0.29	0.61	0.52
To Conservancy Drive, Pipe 92A - 93A								6.96	580				0.00		0.00		0.00			6.96									
Anemone Mews																													
			0.09				0	0.09	0				0.00		0.00		0.00	0.00	0.09	0.09									
Contribution From Peninsula Road, Pipe 62A - 63A								0.95	90				0.00		0.00		0.00		0.95	1.04									
Contribution From Peninsula Road, Pipe 89A - 63A								0.17	14				0.00		0.00		0.00		0.17	1.21									
	63A	75A	0.09				0	1.30	104	3.59	1.21		0.00		0.00		0.00	0.00	0.09	1.30	0.43	1.64	62.5	250	0.25	29.73	0.06	0.61	0.32
To Conservancy Drive, Pipe 75A - 76A								1.30	104				0.00		0.00		0.00			1.30									
Contribution From Les Emmerson Drive (N), Pipe 70A - 72A								1.09	99				0.00		0.00		0.00		1.09	1.09									
Contribution From Les Emmerson Drive (N), Pipe 71A - 72A								2.25	216				0.00		0.00		0.00		2.25	3.34									
	72A	74A	0.27	6	6		21	3.61	336	3.45	3.75		0.00		0.00		0.00	0.00	0.27	3.61	1.19	4.94	58.5	250	0.25	29.73	0.17	0.61	0.45
Contribution From Les Emmerson Drive (S), Pipe 69A - 74A								1.30	132				0.00		0.00		0.00		1.30	4.91									
Contribution From Les Emmerson Drive (S), Pipe 73A - 74A								0.71	76				0.00		0.00		0.00		0.71	5.62									
	74A	750A	0.26	6	6		21	5.88	565	3.36	6.15		0.00		0.00		0.00	0.00	0.26	5.88	1.94	8.09	52.0	250	0.25	29.73	0.27	0.61	0.51
	750A	75A	0.01				0	5.89	565	3.36	6.15		0.00		0.00		0.00	0.00	0.01	5.89	1.94	8.09	10.5	250	0.25	29.73	0.27	0.61	0.51
To Conservancy Drive, Pipe 75A - 76A								5.89	565				0.00		0.00		0.00			5.89									
Gallium Crescent																													
	30A	31A	0.37	10	10		34	0.37	34	3.68	0.41		0.00		0.00		0.00	0.00	0.37	0.37	0.12	0.53	65.0	200	0.65	26.44	0.02	0.84	0.33

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha
Average Daily Flow =	280	l/p/day		
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha
Max Res. Peak Factor =	4.00			
Commercial/Inst./Park Peak Factor =	1.50			
Institutional =	0.32	l/s/Ha		

Industrial Peak Factor = as per MOE Graph

Extraneous Flow =		0.330	L/s/ha	
Minimum Velocity =		0.600	m/s	
Manning's n =	(Conc)	0.013	(Pvc)	0.013
Townhouse coeff=		2.7		
Single house coeff=		3.4		

Designed: A.K.	PROJECT: BARRHAVEN CONCERVANCY EAST PH2, 3, AND JOCK RIVER			
Checked: W.L.	LOCATION: City of Ottawa			
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 110-112	File Ref: 20-1180	Date: Aug 2022	Sheet No.	1 of 6

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-08-31
PROVINCE OF ONTARIO

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	UNITS Singles	UNITS Townhouse	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
	31A	32A	0.34	9	9		31	0.71	65	3.63	0.77		0.00		0.00		0.00	0.00	0.34	0.71	0.23	1.00	64.0	250	0.25	29.73	0.03	0.61	0.28
To Sapling Grove, Pipe 32A - 37A								0.71	65				0.00		0.00		0.00			0.71									
	30A	33A	0.13	2	2		7	0.13	7	3.74	0.08		0.00		0.00		0.00	0.00	0.13	0.13	0.04	0.13	9.5	200	0.65	26.44	0.00	0.84	0.22
	33A	34A	0.16	3	3		11	0.29	18	3.71	0.22		0.00		0.00		0.00	0.00	0.16	0.29	0.10	0.31	43.5	250	0.25	29.73	0.01	0.61	0.19
	34A	35A	0.12	1	1		4	0.41	22	3.70	0.26		0.00		0.00		0.00	0.00	0.12	0.41	0.14	0.40	11.5	250	0.25	29.73	0.01	0.61	0.21
	35A	36A	0.44	11	11		38	0.85	60	3.64	0.71		0.00		0.00		0.00	0.00	0.44	0.85	0.28	0.99	68.5	250	0.25	29.73	0.03	0.61	0.27
	36A	37A	0.31	9	9		31	1.16	91	3.60	1.06		0.00		0.00		0.00	0.00	0.31	1.16	0.38	1.45	61.5	250	0.25	29.73	0.05	0.61	0.31
To Mineral Street, Pipe 37A - 39A								1.16	91				0.00		0.00		0.00			1.16									
Pollination Place																													
	250A	26A	0.11	2	2		7	0.11	7	3.74	0.08		0.00		0.00		0.00	0.00	0.11	0.11	0.04	0.12	24.5	200	0.65	26.44	0.00	0.84	0.20
								0.11	7				0.00		0.00		0.00		0.00	0.11									
	26A	27A	0.09	1	1		4	0.20	11	3.73	0.13		0.00		0.00		0.00	0.00	0.09	0.20	0.07	0.20	11.0	200	0.65	26.44	0.01	0.84	0.24
	27A	28A	0.39	10	10		34	0.59	45	3.66	0.53		0.00		0.00		0.00	0.00	0.39	0.59	0.19	0.73	63.5	250	0.25	29.73	0.02	0.61	0.25
	28A	29A	0.34	10	10		34	0.93	79	3.62	0.93		0.00		0.00		0.00	0.00	0.34	0.93	0.31	1.23	62.5	250	0.25	29.73	0.04	0.61	0.29
To Sapling Grove, Pipe 29A - 32A								0.93	79				0.00		0.00		0.00			0.93									
	250A	25A	0.09	2	2		7	0.09	7	3.74	0.08		0.00		0.00		0.00	0.00	0.09	0.09	0.03	0.11	20.5	200	0.65	26.44	0.00	0.84	0.20
	25A	19A	0.04				0	0.13	7	3.74	0.08		0.00		0.00		0.00	0.00	0.04	0.13	0.04	0.13	8.0	250	0.25	29.73	0.00	0.61	0.15
								0.13	7				0.00		0.00		0.00		0.00	0.13									
	19A	20A	0.28	5	5		17	0.41	24	3.70	0.29		0.00		0.00		0.00	0.00	0.28	0.41	0.14	0.42	71.0	250	0.25	29.73	0.01	0.61	0.21
	20A	21A	0.19	4	4		14	0.60	38	3.67	0.45		0.00		0.00		0.00	0.00	0.19	0.60	0.20	0.65	54.5	250	0.25	29.73	0.02	0.61	0.24
To Sapling Grove, Pipe 21A - 29A								0.60	38				0.00		0.00		0.00			0.60									
Sapling Grove																													
Contribution From Pollination Place, Pipe 20A - 21A								0.60	38				0.00		0.00		0.00		0.60	0.60									
	21A	29A	0.23	3	3		11	0.83	49	3.65	0.58		0.00		0.00		0.00	0.00	0.23	0.83	0.27	0.85	59.0	250	0.25	29.73	0.03	0.61	0.27
Contribution From Pollination Place, Pipe 28A - 29A								0.93	79				0.00		0.00		0.00		0.93	1.76									
	29A	32A	0.25	5	5		17	2.01	145	3.56	1.67		0.00		0.00		0.00	0.00	0.25	2.01	0.66	2.33	58.5	250	0.25	29.73	0.08	0.61	0.36
Contribution From Gallium Crescent, Pipe 31A - 32A								0.71	65				0.00		0.00		0.00		0.71	2.72									
	32A	37A	0.19	4	4		14	2.91	224	3.50	2.54		0.00		0.00		0.00	0.00	0.19	2.91	0.96	3.50	58.5	250	0.25	29.73	0.12	0.61	0.40
To Mineral Street, Pipe 37A - 39A								2.91	224				0.00		0.00		0.00			2.91									
	510A	51A	0.18	3	3		11	0.18	11	3.73	0.13		0.00		0.00		0.00	0.00	0.18	0.18	0.06	0.19	48.5	200	0.65	26.44	0.01	0.84	0.24
Contribution From Syringa Court, Pipe 50A - 51A								1.03	87				0.00		0.00		0.00		1.03	1.21									
	51A	58A	0.25	5	5		17	1.46	115	3.58	1.33		0.00		0.00		0.00	0.00	0.25	1.46	0.48	1.82	58.5	250	0.25	29.73	0.06	0.61	0.33
Contribution From Syringa Court, Pipe 57A - 58A								0.90	79				0.00		0.00		0.00		0.90	2.36									
	58A	61A	0.19	4	4		14	2.55	208	3.51	2.37		0.00		0.00		0.00	0.00	0.19	2.55	0.84	3.21	58.5	250	0.25	29.73	0.11	0.61	0.39
Contribution From Ainsworth Crescent, Pipe 60A - 61A								0.93	83				0.00		0.00		0.00		0.93	3.48									
	61A	82A	0.22	4	4		14	3.70	305	3.46	3.42		0.00		0.00		0.00	0.00	0.22	3.70	1.22	4.64	60.0	250	0.25	29.73	0.16	0.61	0.44
Contribution From Ainsworth Crescent, Pipe 81A - 82A								0.89	72				0.00		0.00		0.00		0.89	4.59									
	82A	85A	0.18	4	4		14	4.77	391	3.42	4.34		0.00		0.00		0.00	0.00	0.18	4.77	1.57	5.91	58.5	250	0.25	29.73	0.20	0.61	0.47
Contribution From Meander Way, Pipe 84A - 85A								0.50	45				0.00		0.00		0.00		0.50	5.27									
	85A	88A	0.21	5	5		17	5.48	453	3.40	4.99		0.00		0.00		0.00	0.00	0.21	5.48	1.81	6.79	58.5	250	0.25	29.73	0.23	0.61	0.49
To Ecology Lane, Pipe 88A - 91A								5.48	453				0.00		0.00		0.00			5.48									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha
Average Daily Flow =	280	l/p/day		
Comm/Inst Flow =	28000	L/ha/da	0.3241	
Industrial Flow =	35000	L/ha/da	0.40509	
Max Res. Peak Factor =	4.00			
Commercial/Inst./Park Peak Factor =	1.50			
Institutional =	0.32	l/s/Ha		

Industrial Peak Factor = as per MOE Graph
Extraneous Flow = 0.330 L/s/ha
Minimum Velocity = 0.600 m/s
Manning's n = (Conc) 0.013 (Pvc) 0.013
Townhouse coeff= 2.7
Single house coeff= 3.4

PROFESSIONAL ENGINEER — LICENSED — W. LIU — 100167932 — 22-08-31 — PROVINCE OF ONTARIO

Designed: A.K.	PROJECT: BARRHAVEN CONCERVANCY EAST PH2, 3, AND JOCK RIVER		
Checked: W.L.	LOCATION: City of Ottawa		
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 110-112	File Ref: 20-1180	Date: Aug 2022	Sheet No. 2 of 6

1180_SAN_DesSheets_Sub4.xlsx

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	UNITS Singles	UNITS Townhouse	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Mineral Street																													
	430A	46A	0.29	6	6		21	0.29	21	3.70	0.25		0.00		0.00		0.00	0.00	0.29	0.29	0.10	0.35	45.5	200	0.65	26.44	0.01	0.84	0.29
Contribution From Les Emmerson Drive (S), Pipe 45A - 46A								0.87	95				0.00		0.00		0.00		0.87	1.16									
	46A	47A	0.29	6	6		21	1.45	137	3.56	1.58		0.00		0.00		0.00	0.00	0.29	1.45	0.48	2.06	62.5	250	0.25	29.73	0.07	0.61	0.34
To Conservancy Drive, Pipe 47A - 48A								1.45	137				0.00		0.00		0.00			1.45									
Contribution From Sapling Grove, Pipe 32A - 37A								2.91	224				0.00		0.00		0.00		2.91	2.91									
Contribution From Gallium Crescent, Pipe 36A - 37A								1.16	91				0.00		0.00		0.00		1.16	4.07									
	37A	39A	0.08				0	4.15	315	3.46	3.53		0.00		0.00		0.00	0.00	0.08	4.15	1.37	4.90	60.0	250	0.25	29.73	0.16	0.61	0.44
Contribution From Peninsula Road, Pipe 38A - 39A								1.05	83				0.00		0.00		0.00		1.05	5.20									
	39A	47A	0.08				0	5.28	398	3.42	4.41		0.00		0.00		0.00	0.00	0.08	5.28	1.74	6.15	62.5	250	0.25	29.73	0.21	0.61	0.47
To Conservancy Drive, Pipe 47A - 48A								5.28	398				0.00		0.00		0.00			5.28									
Les Emmerson Drive (S)																													
	44A	17A	0.39	16		16	44	0.39	44	3.66	0.52		0.00		0.00		0.00	0.00	0.39	0.39	0.13	0.65	73.0	200	0.65	26.44	0.02	0.84	0.35
To Les Emmerson Drive (N), Pipe 17A - 18A								0.39	44				0.00		0.00		0.00			0.39									
	44A	45A	0.64	27		27	73	0.64	73	3.62	0.86		0.00		0.00		0.00	0.00	0.64	0.64	0.21	1.07	111.0	200	0.65	26.44	0.04	0.84	0.41
	45A	46A	0.23	8		8	22	0.87	95	3.60	1.11		0.00		0.00		0.00	0.00	0.23	0.87	0.29	1.40	61.5	250	0.25	29.73	0.05	0.61	0.31
To Mineral Street, Pipe 46A - 47A								0.87	95				0.00		0.00		0.00			0.87									
	730A	73A	0.46	20		20	54	0.46	54	3.65	0.64		0.00		0.00		0.00	0.00	0.46	0.46	0.15	0.79	74.0	200	0.65	26.44	0.03	0.84	0.37
	73A	74A	0.25	8		8	22	0.71	76	3.62	0.89		0.00		0.00		0.00	0.00	0.25	0.71	0.23	1.13	68.5	250	0.25	29.73	0.04	0.61	0.29
To Anemone Mews, Pipe 74A - 750A								0.71	76				0.00		0.00		0.00			0.71									
	65A	66A	0.17	5		5	14	0.17	14	3.72	0.17		0.00		0.00		0.00	0.00	0.17	0.17	0.06	0.22	37.5	200	0.65	26.44	0.01	0.84	0.26
	66A	67A	0.14	3		3	9	0.31	23	3.70	0.28		0.00		0.00		0.00	0.00	0.14	0.31	0.10	0.38	11.0	250	0.25	29.73	0.01	0.61	0.20
	67A	69A	0.58	24		24	65	0.89	88	3.61	1.03		0.00		0.00		0.00	0.00	0.58	0.89	0.29	1.32	100.0	250	0.25	29.73	0.04	0.61	0.30
	69A	74A	0.41	16		16	44	1.30	132	3.57	1.53		0.00		0.00		0.00	0.00	0.41	1.30	0.43	1.95	93.0	250	0.25	29.73	0.07	0.61	0.34
To Anemone Mews, Pipe 74A - 750A								1.30	132				0.00		0.00		0.00			1.30									
Les Emmerson Drive (N)																													
	16A	17A	0.22	4	4		14	0.22	14	3.72	0.17		0.00		0.00		0.00	0.00	0.22	0.22	0.07	0.24	52.5	200	0.65	26.44	0.01	0.84	0.26
Contribution From Les Emmerson Drive (S), Pipe 44A - 17A								0.39	44				0.00		0.00		0.00		0.39	0.61									
	17A	18A	0.22	5	5		17	0.83	75	3.62	0.88		0.00		0.00		0.00	0.00	0.22	0.83	0.27	1.15	63.0	250	0.25	29.73	0.04	0.61	0.29
To Conservancy Drive, Pipe 18A - 23A								0.83	75				0.00		0.00		0.00			0.83									
	64A	70A	0.44	10	10		34	0.44	34	3.68	0.41		0.00		0.00		0.00	0.00	0.44	0.44	0.15	0.55	70.5	200	0.65	26.44	0.02	0.84	0.33
	70A	72A	0.65	19	19		65	1.09	99	3.60	1.15		0.00		0.00		0.00	0.00	0.65	1.09	0.36	1.51	119.0	250	0.25	29.73	0.05	0.61	0.31
To Anemone Mews, Pipe 72A - 74A								1.09	99				0.00		0.00		0.00			1.09									
	16A	40A	0.07	1	1		4	0.07	4	3.76	0.05		0.00		0.00		0.00	0.00	0.07	0.07	0.02	0.07	10.0	200	0.65	26.44	0.00	0.84	0.17
	40A	41A	0.36	10	10		34	0.43	38	3.67	0.45		0.00		0.00		0.00	0.00	0.36	0.43	0.14	0.59	58.0	250	0.65	47.94	0.01	0.98	0.33
	41A	42A	0.63	20	20		68	1.06	106	3.59	1.23		0.00		0.00		0.00	0.00	0.63	1.06	0.35	1.58	108.5	250	0.25	29.73	0.05	0.61	0.32
	42A	43A	0.31	7	7		24	1.37	130	3.57	1.50		0.00		0.00		0.00	0.00	0.31	1.37	0.45	1.96	64.5	250	0.25	29.73	0.07	0.61	0.34
	43A	71A	0.50	14	14		48	1.87	178	3.53	2.04		0.00		0.00		0.00	0.00	0.50	1.87	0.62	2.66	98.0	250	0.25	29.73	0.09	0.61	0.37
	71A	72A	0.38	11	11		38	2.25	216	3.51	2.46		0.00		0.00		0.00	0.00	0.38	2.25	0.74	3.20	76.5	250	0.25	29.73	0.11	0.61	0.39
To Anemone Mews, Pipe 72A - 74A								2.25	216				0.00		0.00		0.00			2.25									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha
Average Daily Flow =	280	l/p/day		
Comm/Inst Flow =	28000	L/ha/da	0.3241	
Industrial Flow =	35000	L/ha/da	0.40509	
Max Res. Peak Factor =	4.00			
Commercial/Inst./Park Peak Factor =	1.50			
Institutional =	0.32	l/s/Ha		

Industrial Peak Factor = as per MOE Graph

Extraneous Flow =		0.330	L/s/ha	
Minimum Velocity =		0.600	m/s	
Manning's n =	(Conc)	0.013	(Pvc)	0.013
Townhouse coeff=		2.7		
Single house coeff=		3.4		

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-08-31
PROVINCE OF ONTARIO

Designed: A.K.	PROJECT: BARRHAVEN CONCERVANCY EAST PH2, 3, AND JOCK RIVER		
Checked: W.L.	LOCATION: City of Ottawa		
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 110-112	File Ref: 20-1180	Date: Aug 2022	Sheet No. 3 of 6

1180_SAN_DesSheets_Sub4.xlsx

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	UNITS Singles	UNITS Townhouse	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Deciduous Crescent																													
	8A	9A	0.44	17		17	46	0.44	46	3.66	0.55		0.00		0.00		0.00	0.00	0.44	0.44	0.15	0.69	62.0	200	0.65	26.44	0.03	0.84	0.36
	9A	11A	0.26	10		10	27	0.70	73	3.62	0.86		0.00		0.00		0.00	0.00	0.26	0.70	0.23	1.09	66.0	250	0.25	29.73	0.04	0.61	0.29
To Conservancy Drive, Pipe 11A - 15A								0.70	73				0.00		0.00		0.00			0.70									
	12A	13A	0.09	2		2	6	0.09	6	3.75	0.07		0.00		0.00		0.00	0.00	0.09	0.09	0.03	0.10	7.5	200	0.65	26.44	0.00	0.84	0.20
	13A	14A	0.38	15		15	41	0.47	47	3.66	0.56		0.00		0.00		0.00	0.00	0.38	0.47	0.16	0.71	66.0	250	0.25	29.73	0.02	0.61	0.25
	14A	15A	0.30	11		11	30	0.77	77	3.62	0.90		0.00		0.00		0.00	0.00	0.30	0.77	0.25	1.16	69.5	250	0.25	29.73	0.04	0.61	0.29
To Conservancy Drive, Pipe 15A - 18A								0.77	77				0.00		0.00		0.00			0.77									
Ephemeral Crescent																													
	2A	3A	0.16	1	1		4	0.16	4	3.76	0.05		0.00		0.00		0.00	0.00	0.16	0.16	0.05	0.10	13.0	200	0.70	27.44	0.00	0.87	0.19
			0.25	5	5		17	0.41	21				0.00		0.00		0.00		0.25	0.41									
	3A	4A	0.31	13		13	36	0.72	57	3.64	0.67		0.00		0.00		0.00	0.00	0.31	0.72	0.24	0.91	107.5	250	0.25	29.73	0.03	0.61	0.27
	4A	15A	0.35	9		9	25	1.07	82	3.61	0.96		0.00		0.00		0.00	0.00	0.35	1.07	0.35	1.31	112.0	250	0.25	29.73	0.04	0.61	0.30
To Conservancy Drive, Pipe 15A - 18A								1.07	82				0.00		0.00		0.00			1.07									
	5A	500A	0.14	6		6	17	0.14	17	3.71	0.20		0.00		0.00		0.00	0.00	0.14	0.14	0.05	0.25	21.0	200	0.65	26.44	0.01	0.84	0.26
	500A	6A	0.45	22		22	60	0.59	77	3.62	0.90		0.00		0.00		0.00	0.00	0.45	0.59	0.19	1.10	78.5	250	0.25	29.73	0.04	0.61	0.29
	6A	11A	0.48	21		21	57	1.07	134	3.57	1.55		0.00		0.00		0.00	0.00	0.48	1.07	0.35	1.90	104.5	250	0.25	29.73	0.06	0.61	0.34
To Conservancy Drive, Pipe 11A - 15A								1.07	134				0.00		0.00		0.00			1.07									
Borrisokane Road																													
	1002A	1001A	0.18	4		4	11	0.18	11	3.73	0.13		0.00		0.00		0.00	0.00	0.18	0.18	0.06	0.19	40.0	200	0.65	26.44	0.01	0.84	0.24
	1001A	10A	0.40	12		12	33	0.58	44	3.66	0.52		0.00		0.00		0.00	0.00	0.40	0.58	0.19	0.71	100.0	250	0.25	29.73	0.02	0.61	0.25
To Conservancy Drive, Pipe 10A - 11A								0.58	44				0.00		0.00		0.00			0.58									
	1004A	1003A	0.50	14		14	38	0.50	38	3.67	0.45		0.00		0.00		0.00	0.00	0.50	0.50	0.17	0.62	98.5	200	0.65	26.44	0.02	0.84	0.35
	1003A	10A	0.41	13		13	36	0.91	74	3.62	0.87		0.00		0.00		0.00	0.00	0.41	0.91	0.30	1.17	100.0	250	0.25	29.73	0.04	0.61	0.29
To Conservancy Drive, Pipe 10A - 11A								0.91	74				0.00		0.00		0.00			0.91									
Conservancy Drive																													
			12.88				1182	12.88	1182			4.21	4.21		0.00	0.58	0.58		17.67	17.67									
	PLUG	10A	36.45				3771	49.33	4953	2.80	44.93	13.70	17.91		0.00	3.47	4.05	9.36	53.62	71.29	23.53	77.81	20.5	525	0.10	136.00	0.57	0.63	0.65
Contribution From Borrisokane Road, Pipe 1001A - 10A								0.58	44				0.00		0.00		0.00		0.58	71.87									
Contribution From Borrisokane Road, Pipe 1003A - 10A								0.91	74				0.00		0.00		0.00		0.91	72.78									
	10A	11A	0.15				0	50.97	5071	2.79	45.87		17.91		0.00		4.05	9.36	0.15	72.93	24.07	79.30	71.5	525	0.10	136.00	0.58	0.63	0.65
Contribution From Ephemeral Crescent, Pipe 6A - 11A								1.07	134				0.00		0.00		0.00		1.07	74.00									
Contribution From Deciduous Crescent, Pipe 9A - 11A								0.70	73				0.00		0.00		0.00		0.70	74.70									
	11A	15A	0.30	6	6		21	53.04	5299	2.78	47.69		17.91		0.00		4.05	9.36	0.30	75.00	24.75	81.80	59.0	525	0.10	136.00	0.60	0.63	0.66
Contribution From Deciduous Crescent, Pipe 14A - 15A								0.77	77				0.00		0.00		0.00		0.77	75.77									
Contribution From Ephemeral Crescent, Pipe 4A - 15A								1.07	82				0.00		0.00		0.00		1.07	76.84									
	15A	18A	0.12				0	55.00	5458	2.77	48.95		17.91		0.00		4.05	9.36	0.12	76.96	25.40	83.71	58.5	525	0.10	136.00	0.62	0.63	0.66
Contribution From Les Emmerson Drive (N), Pipe 17A - 18A								0.83	75				0.00		0.00		0.00		0.83	77.79									
Contribution From Park (Block 773), Pipe 210A - 18A								0.00	0.00				0.00		0.00		3.22		3.22	81.01									
	18A	23A	0.31	5	5		17	56.14	5550	2.76	49.68		17.91		0.00		4.05	9.36	0.31	81.32	26.84	85.88	76.5	525	0.10	136.00	0.63	0.63	0.66
	23A	24A	0.49	11	11		38	56.63	5588	2.76	49.98		17.91		0.00		4.05	9.36	0.49	81.81	27.00	86.34	71.0	525	0.10	136.00	0.63	0.63	0.66
	24A	47A	0.61	15	15		51	57.24	5639	2.76	50.38		17.91		0.00		4.05	9.36	0.61	82.42	27.20	86.94	106.0	525	0.10	136.00	0.64	0.63	0.67

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764
Average Daily Flow =	280	l/p/day	
Comm/Inst Flow =	28000	L/ha/da	0.3241
Industrial Flow =	35000	L/ha/da	0.40509
Max Res. Peak Factor =	4.00		
Commercial/Inst./Park Peak Factor =	1.50		
Institutional =	0.32	l/s/Ha	

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Industrial Peak Factor = as per MOE Graph			
Extraneous Flow =		0.330 L/s/ha	
Minimum Velocity =		0.600 m/s	
Manning's n =	(Conc)	0.013 (Pvc)	0.013
Townhouse coeff=		2.7	
Single house coeff=		3.4	

Designed: A.K.	PROJECT: BARRHAVEN CONCERVANCY EAST PH2, 3, AND JOCK RIVER		
Checked: W.L.	LOCATION: City of Ottawa		
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 110-112	File Ref: 20-1180	Date: Aug 2022	Sheet No. 4 of 6

1180_SAN_DesSheets_Sub4.xlsx

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	UNITS Singles	UNITS Townhouse	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Contribution From Mineral Street, Pipe 39A - 47A								5.28	398				0.00		0.00		0.00		5.28	87.70									
Contribution From Mineral Street, Pipe 46A - 47A								1.45	137				0.00		0.00		0.00		1.45	89.15									
	47A	48A	0.56	14	14		48	64.53	6222	2.72	54.94		17.91		0.00		4.05	9.36	0.56	89.71	29.60	93.90	99.0	525	0.10	136.00	0.69	0.63	0.68
	48A	75A	0.42	10	10		34	64.95	6256	2.72	55.20		17.91		0.00		4.05	9.36	0.42	90.13	29.74	94.30	76.5	525	0.10	136.00	0.69	0.63	0.68
Contribution From Anemone Mews, Pipe 63A - 75A								1.30	104				0.00		0.00		0.00		1.30	91.43									
Contribution From Anemone Mews, Pipe 750A - 75A								5.89	565				0.00		0.00		0.00		5.89	97.32									
	75A	76A	0.31	7	7		24	72.45	6949	2.69	60.53		17.91		0.00		4.05	9.36	0.31	97.63	32.22	102.11	62.0	525	0.10	136.00	0.75	0.63	0.69
	76A	77A	0.39	11	11		38	72.84	6987	2.69	60.82		17.91		0.00		4.05	9.36	0.39	98.02	32.35	102.52	60.0	525	0.10	136.00	0.75	0.63	0.69
	77A	92A	0.33	9	9		31	73.17	7018	2.68	61.05		17.91		0.00		4.05	9.36	0.33	98.35	32.46	102.87	53.0	525	0.10	136.00	0.76	0.63	0.69
Contribution From Ecology Lane, Pipe 91A - 92A								6.96	580				0.00		0.00		0.00		6.96	105.31									
	92A	93A	0.51	12	12		41	80.64	7639	2.66	65.75		17.91		0.00		4.05	9.36	0.51	105.82	34.92	110.03	90.5	525	0.10	136.00	0.81	0.63	0.70
	93A	119A	0.37	6	6		21	81.01	7660	2.65	65.91		17.91		0.00	0.52	4.57	9.44	0.89	106.71	35.21	110.56	88.0	525	0.10	136.00	0.81	0.63	0.70
To Canoe Street, Pipe 119A - 120A								81.01	7660				17.91		0.00		4.57			106.71									
Meander Way																													
	84A	85A	0.50	13	13		45	0.50	45	3.66	0.53		0.00		0.00		0.00	0.00	0.50	0.50	0.17	0.70	92.5	200	0.65	26.44	0.03	0.84	0.36
To Sapling Grove, Pipe 85A - 88A								0.50	45				0.00		0.00		0.00			0.50									
	84A	86A	0.16	1	1		4	0.16	4	3.76	0.05		0.00		0.00		0.00	0.00	0.16	0.16	0.05	0.10	13.0	200	0.65	26.44	0.00	0.84	0.20
	86A	87A	0.22	4	4		14	0.38	18	3.71	0.22		0.00		0.00		0.00	0.00	0.22	0.38	0.13	0.34	50.5	250	0.65	47.94	0.01	0.98	0.28
	87A	114A	0.23	5	5		17	0.61	35	3.67	0.42		0.00		0.00		0.00	0.00	0.23	0.61	0.20	0.62	58.0	250	0.25	29.73	0.02	0.61	0.24
	114A	115A	0.07	1	1		4	0.68	39	3.67	0.46		0.00		0.00		0.00	0.00	0.07	0.68	0.22	0.69	10.0	250	0.25	29.73	0.02	0.61	0.25
	115A	116A	0.63	17	17		58	1.31	97	3.60	1.13		0.00		0.00		0.00	0.00	0.63	1.31	0.43	1.56	110.5	250	0.25	29.73	0.05	0.61	0.32
To Peninsula Road, Pipe 116A - 117A								1.31	97				0.00		0.00		0.00			1.31									
Peninsula Road																													
	89A	63A	0.17	4	4		14	0.17	14	3.72	0.17		0.00		0.00		0.00	0.00	0.17	0.17	0.06	0.22	41.0	200	0.65	26.44	0.01	0.84	0.26
To Anemone Mews, Pipe 63A - 75A								0.17	14				0.00		0.00		0.00			0.17									
	380A	38A	0.45	8	8		28	0.45	28	3.69	0.33		0.00		0.00		0.00	0.00	0.45	0.45	0.15	0.48	57.0	200	0.65	26.44	0.02	0.84	0.32
	38A	39A	0.60	16	16		55	1.05	83	3.61	0.97		0.00		0.00		0.00	0.00	0.60	1.05	0.35	1.32	108.5	250	0.25	29.73	0.04	0.61	0.30
To Mineral Street, Pipe 39A - 47A								1.05	83				0.00		0.00		0.00			1.05									
	620A	62A	0.50	13	13		45	0.50	45	3.66	0.53		0.00		0.00		0.00	0.00	0.50	0.50	0.17	0.70	83.0	200	0.65	26.44	0.03	0.84	0.36
	62A	63A	0.45	13	13		45	0.95	90	3.60	1.05		0.00		0.00		0.00	0.00	0.45	0.95	0.31	1.36	82.0	250	0.25	29.73	0.05	0.61	0.31
To Anemone Mews, Pipe 63A - 75A								0.95	90				0.00		0.00		0.00			0.95									
	89A	90A	0.41	13	13		45	0.41	45	3.66	0.53		0.00		0.00		0.00	0.00	0.41	0.41	0.14	0.67	67.0	200	0.65	26.44	0.03	0.84	0.35
	90A	91A	0.37	10	10		34	0.78	79	3.62	0.93		0.00		0.00		0.00	0.00	0.37	0.78	0.26	1.18	68.5	250	0.75	51.50	0.02	1.05	0.42
To Ecology Lane, Pipe 91A - 92A								0.78	79				0.00		0.00		0.00			0.78									
	91A	116A	0.18	4	4		14	0.18	14	3.72	0.17		0.00		0.00		0.00	0.00	0.18	0.18	0.06	0.23	58.5	200	0.65	26.44	0.01	0.84	0.26
Contribution From Meander Way, Pipe 115A - 116A								1.31	97				0.00		0.00		0.00		1.31	1.49									
	116A	117A	0.23	6	6		21	1.72	132	3.57	1.53		0.00		0.00		0.00	0.00	0.23	1.72	0.57	2.09	58.5	250	0.25	29.73	0.07	0.61	0.34
Contribution From Elation Heights, Pipe 109A - 117A								0.74	55				0.00		0.00		0.00		0.74	2.46									
	117A	118A	0.18	3	3		11	2.64	198	3.52	2.26		0.00		0.00		0.00	0.00	0.18	2.64	0.87	3.13	59.0	250	0.25	29.73	0.11	0.61	0.39
To Canoe Street, Pipe 118A - 1180A								2.64	198				0.00		0.00		0.00			2.64									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha				
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph			
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =		0.330	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =		0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n =	(Conc)	0.013	(Pvc) 0.013
Commercial/Inst./Park Peak Factor =	1.50				Townhouse coeff=		2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=		3.4	

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-08-31
PROVINCE OF ONTARIO

Designed: A.K.	PROJECT: BARRHAVEN CONCERVANCY EAST PH2, 3, AND JOCK RIVER			
Checked: W.L.	LOCATION: City of Ottawa			
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 110-112	File Ref: 20-1180	Date: Aug 2022	Sheet No. 5 of 6	

SANITARY SEWER CALCULATION SHEET

Ottawa

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	UNITS Singles	UNITS Townhouse	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Elation Heights																													
	112A	113A	0.05	1	1		4	0.05	4	3.76	0.05		0.00		0.00		0.00	0.00	0.05	0.05	0.02	0.07	15.5	200	0.65	26.44	0.00	0.84	0.17
To Canoe Street, Pipe 113A - 118A								0.05	4				0.00		0.00		0.00			0.05									
	110A	109A	0.16	1	1		4	0.16	4	3.76	0.05		0.00		0.00		0.00	0.00	0.16	0.16	0.05	0.10	13.5	200	0.65	26.44	0.00	0.84	0.20
	109A	117A	0.58	15	15		51	0.74	55	3.64	0.65		0.00		0.00		0.00	0.00	0.58	0.74	0.24	0.89	103.0	250	0.25	29.73	0.03	0.61	0.27
To Peninsula Road, Pipe 117A - 118A								0.74	55				0.00		0.00		0.00			0.74									
Jollity Crescent																													
	104A	105A	0.39	10	10		34	0.39	34	3.68	0.41		0.00		0.00		0.00	0.00	0.39	0.39	0.13	0.53	69.0	200	0.80	29.34	0.02	0.93	0.35
To Canoe Street, Pipe 105A - 108A								0.39	34				0.00		0.00		0.00			0.39									
	106A	107A	0.15	1	1		4	0.15	4	3.76	0.05		0.00		0.00		0.00	0.00	0.15	0.15	0.05	0.10	12.0	200	0.70	27.44	0.00	0.87	0.19
	107A	108A	0.48	12	12		41	0.63	45	3.66	0.53		0.00		0.00		0.00	0.00	0.48	0.63	0.21	0.74	87.0	250	0.25	29.73	0.02	0.61	0.25
To Canoe Street, Pipe 108A - 113A								0.63	45				0.00		0.00		0.00			0.63									
Euphoria Crescent																													
	101A	102A	0.36	7	7		24	0.36	24	3.70	0.29		0.00		0.00		0.00	0.00	0.36	0.36	0.12	0.41	62.5	250	0.65	47.94	0.01	0.98	0.30
To Canoe Street, Pipe 102A - 105A								0.36	24				0.00		0.00		0.00			0.36									
	98A	99A	0.28	5	5		17	0.28	17	3.71	0.20		0.00		0.00		0.00	0.00	0.28	0.28	0.09	0.30	41.5	200	1.20	35.93	0.01	1.14	0.33
To Canoe Street, Pipe 99A - 102A								0.28	17				0.00		0.00		0.00			0.28									
Canoe Street																													
	94A	95A	0.52	3	3		11	0.52	11	3.73	0.13		0.00		0.00		0.00	0.00	0.52	0.52	0.17	0.30	38.5	200	0.65	26.44	0.01	0.84	0.28
	95A	96A	0.49	9	9		31	1.01	42	3.66	0.50		0.00		0.00		0.00	0.00	0.49	1.01	0.33	0.83	83.5	250	0.25	29.73	0.03	0.61	0.26
	96A	99A	0.10	2	2		7	1.11	49	3.65	0.58		0.00		0.00		0.00	0.00	0.10	1.11	0.37	0.95	22.0	250	0.25	29.73	0.03	0.61	0.27
Contribution From Euphoria Crescent, Pipe 98A - 99A								0.28	17				0.00		0.00		0.00		0.28	1.39									
	99A	102A	0.18	3	3		11	1.57	77	3.62	0.90		0.00		0.00		0.00	0.00	0.18	1.57	0.52	1.42	58.5	250	0.25	29.73	0.05	0.61	0.31
Contribution From Euphoria Crescent, Pipe 101A - 102A								0.36	24				0.00		0.00		0.00		0.36	1.93									
	102A	105A	0.22	4	4		14	2.15	115	3.58	1.33		0.00		0.00		0.00	0.00	0.22	2.15	0.71	2.04	58.5	250	0.25	29.73	0.07	0.61	0.34
Contribution From Jollity Crescent, Pipe 104A - 105A								0.39	34				0.00		0.00		0.00		0.39	2.54									
	105A	108A	0.21	4	4		14	2.75	163	3.54	1.87		0.00		0.00		0.00	0.00	0.21	2.75	0.91	2.78	58.5	250	0.25	29.73	0.09	0.61	0.38
Contribution From Jollity Crescent, Pipe 107A - 108A								0.63	45				0.00		0.00		0.00		0.63	3.38									
	108A	113A	0.20	4	4		14	3.58	222	3.50	2.52		0.00		0.00		0.00	0.00	0.20	3.58	1.18	3.70	60.0	250	0.25	29.73	0.12	0.61	0.41
Contribution From Elation Heights, Pipe 112A - 113A								0.05	4				0.00		0.00		0.00		0.05	3.63									
	113A	118A	0.43	10	10		34	4.06	260	3.48	2.94		0.00		0.00		0.00	0.00	0.43	4.06	1.34	4.27	74.0	250	0.25	29.73	0.14	0.61	0.43
Contribution From Peninsula Road, Pipe 117A - 118A								2.64	198				0.00		0.00		0.00		2.64	6.70									
	118A	1180A	0.16	3	3		11	6.86	469	3.39	5.15		0.00		0.00		0.00	0.00	0.16	6.86	2.26	7.42	42.5	250	0.25	29.73	0.25	0.61	0.50
	1180A	119A	0.03				0	6.89	469	3.39	5.15		0.00		0.00		0.00	0.00	0.03	6.89	2.27	7.43	20.0	250	0.25	29.73	0.25	0.61	0.50
Contribution From Conservancy Drive, Pipe 93A - 119A								81.01	7660				17.91		0.00		4.57		106.71	113.60									
	119A	120A	0.17				0	88.07	8129	2.63	69.41		17.91		0.00		4.57	9.44	0.17	113.77	37.54	116.40	75.0	525	0.10	136.00	0.86	0.63	0.71
	120A	121A	0.21	4	4		14	88.28	8143	2.63	69.51		17.91		0.00		4.57	9.44	0.21	113.98	37.61	116.57	87.5	525	0.10	136.00	0.86	0.63	0.71
	121A	Ex. MH 8						88.28	8143	2.63	69.51		17.91		0.00		4.57	9.44	0.00	113.98	37.61	116.57	10.0	525	0.10	136.00	0.86	0.63	0.71
Park (Block 773)																													
	210A	18A						0.00					0.00		0.00	3	3.22	0.52	3.22	3.22	1.06	1.58	11.5	200	0.65	26.44	0.06	0.84	0.46
To Conservancy Drive, Pipe 18A - 23A								0.00	0				0.00		0.00		3.22			3.22									

DESIGN PARAMETERS

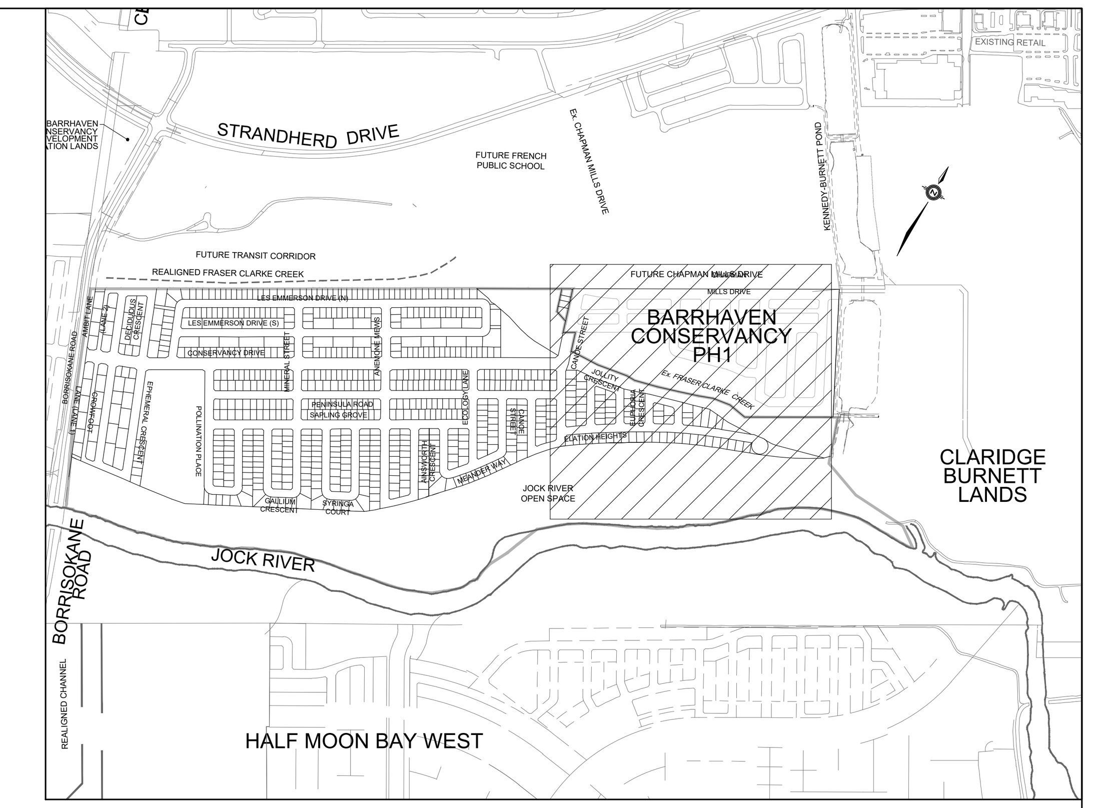
Park Flow =	9300	L/ha/da	0.10764 l/s/Ha
Average Daily Flow =	280	l/p/day	
Comm/Inst Flow =	28000	L/ha/da	0.3241
Industrial Flow =	35000	L/ha/da	0.40509
Max Res. Peak Factor =	4.00		
Commercial/Inst./Park Peak Factor =	1.50		
Institutional =	0.32	l/s/Ha	

Industrial Peak Factor = as per MOE Graph			
Extraneous Flow =		0.330	L/s/ha
Minimum Velocity =		0.600	m/s
Manning's n =	(Conc)	0.013	(Pvc) 0.013
Townhouse coeff=		2.7	
Single house coeff=		3.4	

PROFESSIONAL ENGINEER
LICENSED
W. LIU
100167932
22-08-31
PROVINCE OF ONTARIO

Designed: A.K.	PROJECT: BARRHAVEN CONCERVANCY EAST PH2, 3, AND JOCK RIVER				
Checked: W.L.	LOCATION: City of Ottawa				
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 110-112	File Ref: 20-1180	Date: Aug 2022	Sheet No.	6 of	6

1180_SAN_DesSheets_Sub4.xlsx



LEGEND

SANITARY DRAINAGE BOUNDARY
SANITARY SUB-DRAINAGE BOUNDARY
UPSTREAM MH TO DOWNSTREAM MH — 43A - 44A
AREA IN HECTARES — 0.78
POPULATION — 61
UPSTREAM MH TO DOWNSTREAM MH — 43A-44A
AREA IN OTHER PHASES IN HECTARES — 0.78
POPULATION — 61
EXTERNAL AREA IN HECTARES — A=53.63
EXTERNAL POPULATION — POP=5739
DENSITY (PERSONS/HECTARE) — 107
EXTERNAL LAND USE — RESIDENTIAL
MAINTENANCE HOLE — MH202A
CAP
EXISTING SANITARY MAINTENANCE HOLE

TOPOGRAPHIC INFORMATION
TOPOGRAPHIC INFORMATION PROVIDED BY J.D. BARNES LIMITED, PROJECT No. 16-10-127-00. SURVEY DATED APRIL 10, 2018.

LEGAL INFORMATION
M-PLAN PROVIDED BY J.D. BARNES., PROJECT No. 16-10-127-00, RECEIVED ON AUGUST 2, 2022.

NOT FOR CONSTRUCTION

ELEVATION NOTE
ELEVATIONS SHOWN ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE REFERRED TO THE PUBLISHED BENCH MARK No. 0011964U3710
ELEVATION = 71.724m

No.	BY	DATE	DESCRIPTION
7	W.L.	22-09-28	RETAINING WALL UPDATES
6	W.L.	22-09-27	WATERMAIN AND CUP UPDATES
5	W.L.	22-08-31	CITY COMMENTS AND TRANSPORATION UPDATES
4	W.L.	22-08-10	REVISED STREET NAME & LOT 99 SIGHT TRIANGLE
3	W.L.	22-06-28	3rd SUBMISSION
2	W.L.	22-04-22	2nd SUBMISSION
1	W.L.	21-12-22	1st SUBMISSION

CITY OF OTTAWA

PROJECT No. 20-1180

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-09-28
PROVINCE OF ONTARIO

SANITARY DRAINAGE PLAN

BARRHAVEN CONSERVANCY DEVELOPMENT CORPORATION

BARRHAVEN CONSERVANCY EAST PHASE 2, 3 & JOCK RIVER

DSEL
120 Iber Road, Unit 103
Stittsville, ON K2S 1E9
Tel. (613) 836-0856
Fax. (613) 836-7183
www.DSEL.ca

DRAWN BY: A.K./R.A./V.W.	CHECKED BY: W.L.	SHEET NO.
DESIGNED BY: W.L.	CHECKED BY: C.M.	112
SCALE: 1:1000	DATE: DECEMBER 2021	

CITY PLAN No. 18754

CITY FILE No. D07-16-20-0021

Drainage area plan for Conservancy East detailed design.

Design Sheet for Conservancy Phase 5.

Updated draft plan submission in December 2022

SANITARY SEWER CALCULATION SHEET

Ottawa

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Centerline13 - 13																											
	529A	530A	0.15		16	0.15	16	3.7	0.19		0.00		0.00		0.00	0.00	0.15	0.15	0.04	0.24	20.5	200	0.65	26.44	0.01	0.84	0.26
			0.19		20	0.34	36				0.00		0.00		0.00		0.19	0.34									
	530A	534A	0.26		53	0.60	89	3.6	1.04		0.00		0.00		0.00	0.00	0.26	0.60	0.17	1.21	70.5	250	0.25	29.73	0.04	0.61	0.29
			0.22		23	0.82	112				0.00		0.00		0.00		0.22	0.82									
	534A	531A	0.26		28	1.08	140	3.6	1.62		0.00		0.00		0.00	0.00	0.26	1.08	0.31	1.92	82.0	250	0.25	29.73	0.06	0.61	0.34
To Centerline1 - 01, Pipe 531A - 532A						1.08	140				0.00		0.00		0.00			1.08									
Centerline9 - 09																											
	525A	527A	0.62		65	0.62	65	3.6	0.77		0.00		0.00		0.00	0.00	0.62	0.62	0.18	0.94	104.0	200	0.65	26.44	0.04	0.84	0.39
To Centerline6 - 06, Pipe 527A - 528A						0.62	65				0.00		0.00		0.00			0.62									
Centerline6 - 06																											
	526A	527A	0.21		22	0.21	22	3.7	0.26		0.00		0.00	0.64	0.64	0.07	0.85	0.85	0.24	0.58	63.0	200	0.65	26.44	0.02	0.84	0.34
Contribution From Centerline9 - 09, Pipe 525A - 527A						0.62	65				0.00		0.00		0.00		0.62	1.47									
	527A	528A	0.12		12	0.95	99	3.6	1.15		0.00		0.00		0.64	0.07	0.12	1.59	0.45	1.68	44.5	200	0.35	19.40	0.09	0.62	0.37
To Centerline14 - 14, Pipe 528A - 531A						0.95	99				0.00		0.00		0.64			1.59									
Centerline14 - 14																											
	523A	524A				0.00				1.47	1.47		0.00		0.00	0.48	1.47	1.47	0.42	0.90	26.5	200	0.65	26.44	0.03	0.84	0.39
			0.25		26	0.25	26				1.47		0.00		0.00		0.25	1.72									
	524A	528A	0.45		47	0.70	73	3.6	0.86		1.47		0.00		0.00	0.48	0.45	2.17	0.62	1.95	117.5	200	0.35	19.40	0.10	0.62	0.39
Contribution From Centerline6 - 06, Pipe 527A - 528A						0.95	99				0.00		0.00		0.64		1.59	3.76									
	528A	531A	0.17		18	1.82	190	3.5	2.17		1.47		0.00		0.64	0.55	0.17	3.93	1.12	3.84	48.5	200	0.35	19.40	0.20	0.62	0.48
To Centerline1 - 01, Pipe 531A - 532A						1.82	190				1.47		0.00		0.64			3.93									
Centerline8 - 08																											
	533A	522A	0.16		14	0.16	14	3.7	0.17		0.00		0.00		0.00	0.00	0.16	0.16	0.05	0.21	40.5	200	0.65	26.44	0.01	0.84	0.24
	522A	520A				0.16	14	3.7	0.17		0.00		0.00		0.00	0.00	0.00	0.16	0.05	0.21	13.0	200	0.35	19.40	0.01	0.62	0.20
	520A	521A	0.86		72	1.02	86	3.6	1.01		0.00		0.00		0.00	0.00	0.86	1.02	0.29	1.30	137.0	250	0.25	29.73	0.04	0.61	0.30
To Centerline1 - 01, Pipe 521A - 531A						1.02	86				0.00		0.00		0.00			1.02									
Centerline15 - 15																											
	501A	503A	0.68		71	0.68	71	3.6	0.83		0.00		0.00		0.00	0.00	0.68	0.68	0.19	1.03	101.0	200	0.65	26.44	0.04	0.84	0.40
To Centerline4 - 04, Pipe 503A - 509A						0.68	71				0.00		0.00		0.00			0.68									
	502A	503A	0.49		51	0.49	51	3.7	0.60		0.00		0.00		0.00	0.00	0.49	0.49	0.14	0.74	21.0	200	0.65	26.44	0.03	0.84	0.37
To Centerline4 - 04, Pipe 503A - 509A						0.49	51				0.00		0.00		0.00			0.49									
Centerline4 - 04																											
Contribution From Centerline15 - 15, Pipe 501A - 503A						0.68	71				0.00		0.00		0.00		0.68	0.68									
Contribution From Centerline15 - 15, Pipe 502A - 503A						0.49	51				0.00		0.00		0.00		0.49	1.17									
	503A	509A	0.50		52	1.67	174	3.5	1.99		0.00		0.00		0.00	0.00	0.50	1.67	0.48	2.47	108.5	250	0.25	29.73	0.08	0.61	0.36
To Centerline11 - 11, Pipe 509A - 510A						1.67	174				0.00		0.00		0.00			1.67									
Centerline2 - 02																											
	507A	508A	0.41		43	0.41	43	3.7	0.51		0.00		0.00		0.00	0.00	0.41	0.41	0.12	0.63	93.5	200	0.65	26.44	0.02	0.84	0.35
To Centerline11 - 11, Pipe 508A - 509A						0.41	43				0.00		0.00		0.00			0.41									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha	
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow = 0.286 L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity = 0.600 m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc) 0.013 (Pvc) 0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff= 2.7
Institutional =	0.32	l/s/Ha			Single house coeff= 3.4

Designed: A.S.

Checked: W.L./V.W.

Dwg. Reference: Sanitary Drainage Plan, Dwgs. No.

PROJECT: **Barrhaven Conservancy East Phase 5**

LOCATION: **City of Ottawa**

File Ref:

Date: **01 Dec 2022**

Sheet No 1 of 2

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Centerline11 - 11																											
			0.21		22	0.21	22				0.00		0.00		0.00		0.21	0.21									
	504A	505A	0.27		28	0.48	50	3.7	0.59		0.00		0.00		0.00	0.00	0.27	0.48	0.14	0.73	85.5	200	0.65	26.44	0.03	0.84	0.36
	505A	506A	0.13		14	0.61	64	3.6	0.75		0.00		0.00		0.00	0.00	0.13	0.61	0.17	0.93	10.5	200	0.35	19.40	0.05	0.62	0.31
	506A	508A	0.17		18	0.78	82	3.6	0.96		0.00		0.00		0.00	0.00	0.17	0.78	0.22	1.18	40.0	250	0.25	29.73	0.04	0.61	0.29
Contribution From Centerline2 - 02, Pipe 507A - 508A						0.41	43				0.00		0.00		0.00		0.41	1.19									
	508A	509A	0.19		20	1.38	145	3.6	1.67		0.00		0.00		0.00	0.00	0.19	1.38	0.39	2.07	47.5	250	0.25	29.73	0.07	0.61	0.34
Contribution From Centerline4 - 04, Pipe 503A - 509A						1.67	174				0.00		0.00		0.00		1.67	3.05									
	509A	510A	0.20		21	3.25	340	3.4	3.79		0.00		0.00		0.00	0.00	0.20	3.25	0.93	4.72	48.0	250	0.25	29.73	0.16	0.61	0.44
	510A	511A	0.03		0	3.28	340	3.4	3.79		0.00		0.00		0.00	0.00	0.03	3.28	0.94	4.73	12.5	250	0.25	29.73	0.16	0.61	0.44
	511A	519A	0.09		0	3.37	340	3.4	3.79		0.00		0.00		0.00	0.00	0.09	3.37	0.96	4.76	59.5	250	0.25	29.73	0.16	0.61	0.44
To Centerline1 - 01, Pipe 519A - 521A						3.37	340				0.00		0.00		0.00			3.37									
Centerline10 - 10																											
	512A	513A	0.65		54	0.65	54	3.6	0.64		0.00		0.00		0.00	0.00	0.65	0.65	0.19	0.82	37.5	200	0.65	26.44	0.03	0.84	0.38
	513A	535A	0.23		34	0.88	88	3.6	1.03		0.00		0.00		0.00	0.00	0.23	0.88	0.25	1.28	48.0	200	0.35	19.40	0.07	0.62	0.34
To Centerline3 - 03, Pipe 535A - 518A						0.88	88				0.00		0.00		0.00			0.88									
	536A	514A	0.19		34	0.19	34	3.7	0.41		0.00		0.00		0.00	0.00	0.19	0.19	0.05	0.46	47.5	200	0.65	26.44	0.02	0.84	0.32
	514A	515A	0.15		12	0.34	46	3.7	0.55		0.00		0.00		0.00	0.00	0.15	0.34	0.10	0.64	11.0	200	0.35	19.40	0.03	0.62	0.28
	515A	519A	0.63		52	0.97	98	3.6	1.14		0.00		0.00		0.00	0.00	0.63	0.97	0.28	1.42	119.5	250	0.25	29.73	0.05	0.61	0.31
To Centerline1 - 01, Pipe 519A - 521A						0.97	98				0.00		0.00		0.00			0.97									
Centerline3 - 03																											
Contribution From Centerline10 - 10, Pipe 513A - 535A						0.88	88				0.00		0.00		0.00		0.88	0.88									
	535A	518A	0.54		45	1.42	133	3.6	1.54		0.00		0.00		0.00	0.00	0.54	1.42	0.41	1.94	109.0	250	0.25	29.73	0.07	0.61	0.34
To Centerline1 - 01, Pipe 518A - 519A						1.42	133				0.00		0.00		0.00			1.42									
Centerline1 - 01																											
			0.33		27	0.33	27			13.70	13.70		0.00	3.47	3.47		17.50	17.50									
			0.43		45	0.76	72				13.70		0.00		3.47		0.43	17.93									
	516A	518A	36.45		3771	37.21	3843	2.9	35.86		13.70		0.00		3.47	4.81	36.45	54.38	15.55	56.22	112.5	450	0.15	110.42	0.51	0.69	0.70
Contribution From Centerline3 - 03, Pipe 535A - 518A						1.42	133				0.00		0.00		0.00		1.42	55.80									
	518A	519A	0.24		25	38.87	4001	2.9	37.17		13.70		0.00		3.47	4.81	0.24	56.04	16.03	58.01	63.5	525	0.11	142.64	0.41	0.66	0.62
Contribution From Centerline11 - 11, Pipe 511A - 519A						3.37	340				0.00		0.00		0.00		3.37	59.41									
Contribution From Centerline10 - 10, Pipe 515A - 519A						0.97	98				0.00		0.00		0.00		0.97	60.38									
	519A	521A	0.19		20	43.40	4459	2.8	40.93		13.70		0.00		3.47	4.81	0.19	60.57	17.32	63.07	59.0	525	0.10	136.00	0.46	0.63	0.61
Contribution From Centerline8 - 08, Pipe 520A - 521A						1.02	86				0.00		0.00		0.00		1.02	61.59									
	521A	531A	0.20		21	44.62	4566	2.8	41.80		13.70		0.00		3.47	4.81	0.20	61.79	17.67	64.29	59.5	525	0.10	136.00	0.47	0.63	0.62
Contribution From Centerline14 - 14, Pipe 528A - 531A						1.82	190				1.47		0.00		0.64		3.93	65.72									
Contribution From Centerline13 - 13, Pipe 534A - 531A						1.08	140				0.00		0.00		0.00		1.08	66.80									
	531A	532A	0.10		0	47.62	4896	2.8	44.47		15.17		0.00		4.11	5.36	0.10	66.90	19.13	68.96	55.0	525	0.10	136.00	0.51	0.63	0.63

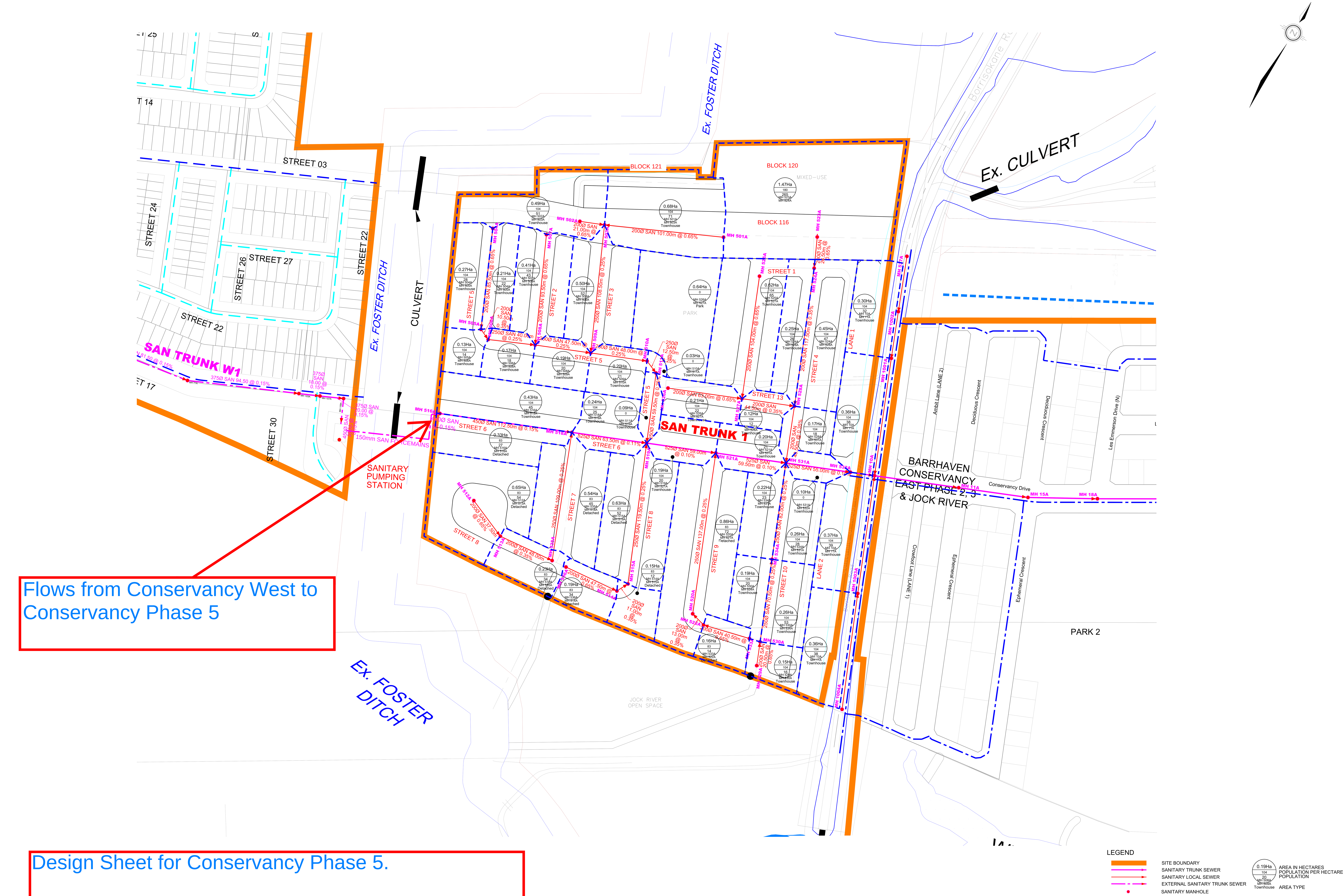
Flows projected from Conservancy West.

Lower flows that what was previously projected (77.81 L/s) in the Phase 2, 3, & 4 sanitary design sheet downstream.

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha				
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph			
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =		0.286	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =		0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n =	(Conc)	0.013	(Pvc) 0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=		2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=		3.4	

Designed: A.S.	PROJECT: **Barrhaven Conservancy East Phase 5**
Checked: W.L./V.W.	LOCATION: **City of Ottawa**
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No.	File Ref:
Date: **01 Dec 2022**	Sheet No 2 of 2



Flows from Conservancy West to Conservancy Phase 5

Design Sheet for Conservancy Phase 5.

Updated draft plan submission in December 2022

DSEL

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BARRHAVEN CONSERVANCY EAST PHASE 5
SANITARY TRIBUTARY AREA
CITY OF OTTAWA

PROJECT No. :	20-1180 A-5
SCALE:	1:1000
DATE:	DECEMBER 2022
DRAWING No.	4

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

Ottawa

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
STREET '7'																											
Contribution From STREET '1', Pipe 110A - 112A						0.20	21				0.00		0.00		0.00		0.20	0.20									
Contribution From STREET '1', Pipe 111A - 112A						0.13	14				0.00		0.00		0.00		0.13	0.33									
	112A	113A	0.35		36	0.68	71	3.63	0.83		0.00		0.00		0.00	0.00	0.35	0.68	0.19	1.03	78.0	200	0.35	19.40	0.05	0.62	0.33
	113A	119A	0.38		40	1.06	111	3.58	1.29		0.00		0.00		0.00	0.00	0.38	1.06	0.30	1.59	84.5	200	0.35	19.40	0.08	0.62	0.37
To STREET '2', Pipe 119A - 120A						1.06	111				0.00		0.00		0.00			1.06									
Centerline6 - 29																											
	114A	115A	0.15		13	0.15	13	3.72	0.16		0.00		0.00	0.44	0.44	0.05	0.59	0.59	0.17	0.37	40.5	200	0.65	26.44	0.01	0.84	0.29
	115A	116A				0.15	13	3.72	0.16		0.00		0.00		0.44	0.05	0.00	0.59	0.17	0.37	10.5	200	0.35	19.40	0.02	0.62	0.24
	116A	117A				0.15	13	3.72	0.16		0.00		0.00		0.44	0.05	0.00	0.59	0.17	0.37	45.0	200	0.35	19.40	0.02	0.62	0.24
	117A	118A	0.08		7	0.23	20	3.70	0.24		0.00		0.00		0.44	0.05	0.08	0.67	0.19	0.48	11.0	200	0.35	19.40	0.02	0.62	0.26
	118A	119A	0.24		20	0.47	40	3.67	0.48		0.00		0.00		0.44	0.05	0.24	0.91	0.26	0.78	63.0	200	0.35	19.40	0.04	0.62	0.30
To STREET '2', Pipe 119A - 120A						0.47	40				0.00		0.00		0.44			0.91									
STREET '6'																											
Contribution From STREET '1', Pipe 106A - 107A						0.18	19				0.00		0.00		0.00		0.18	0.18									
	107A	108A	0.30		31	0.48	50	3.65	0.59		0.00		0.00		0.00	0.00	0.30	0.48	0.14	0.73	78.0	200	0.35	19.40	0.04	0.62	0.29
	108A	109A	0.30		31	0.78	81	3.61	0.95		0.00		0.00		0.00	0.00	0.30	0.78	0.22	1.17	78.0	200	0.35	19.40	0.06	0.62	0.34
To STREET '2', Pipe 109A - 119A						0.78	81				0.00		0.00		0.00			0.78									
STREET '5'																											
Contribution From STREET '1', Pipe 750A - 102A						0.77	80				0.00		0.00		0.00		0.77	0.77									
	102A	103A	0.17		18	0.94	98	3.60	1.14		0.00		0.00		0.00	0.00	0.17	0.94	0.27	1.41	65.0	200	0.35	19.40	0.07	0.62	0.36
Contribution From STREET '3', Pipe 850A - 103A						0.53	55				0.00		0.00		0.00		0.53	1.47									
	103A	104A	0.13		14	1.60	167	3.54	1.92		0.00		0.00		0.00	0.00	0.13	1.60	0.46	2.37	44.0	200	0.35	19.40	0.12	0.62	0.42
Contribution From STREET '4', Pipe 870A - 104A						0.42	44				0.00		0.00		0.00		0.42	2.02									
	104A	105A	0.11		11	2.13	222	3.50	2.52		0.00		0.00		0.00	0.00	0.11	2.13	0.61	3.13	47.5	200	0.35	19.40	0.16	0.62	0.45
To STREET '2', Pipe 105A - 109A						2.13	222				0.00		0.00		0.00			2.13									
STREET '4'																											
	87A	104A	0.42		44	0.42	44	3.66	0.52		0.00		0.00		0.00	0.00	0.42	0.42	0.12	0.64	102.5	200	0.65	26.44	0.02	0.84	0.35
To STREET '5', Pipe 104A - 105A						0.42	44				0.00		0.00		0.00			0.42									
	87A	88A	0.10		10	0.10	10	3.73	0.12		0.00		0.00		0.00	0.00	0.10	0.10	0.03	0.15	32.5	200	0.65	26.44	0.01	0.84	0.22
To STREET '2', Pipe 88A - 89A						0.10	10				0.00		0.00		0.00			0.10									
STREET '3'																											
	85A	103A	0.53		55	0.53	55	3.64	0.65		0.00		0.00		0.00	0.00	0.53	0.53	0.15	0.80	110.0	200	0.65	26.44	0.03	0.84	0.37
To STREET '5', Pipe 103A - 104A						0.53	55				0.00		0.00		0.00			0.53									
	85A	86A	0.07		7	0.07	7	3.74	0.08		0.00		0.00		0.00	0.00	0.07	0.07	0.02	0.10	24.0	200	0.65	26.44	0.00	0.84	0.20
To STREET '2', Pipe 86A - 88A						0.07	7				0.00		0.00		0.00			0.07									
STREET '26'																											
	123A	27A	0.64		54	0.64	54	3.65	0.64		0.00		0.00		0.00	0.00	0.64	0.64	0.18	0.82	115.0	200	0.65	26.44	0.03	0.84	0.38
To STREET '28', Pipe 27A - 32A						0.64	54				0.00		0.00		0.00			0.64									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha				
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph			
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =		0.286	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =		0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n =	(Conc)	0.013	(Pvc) 0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=		2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=		3.4	

Designed: M.S.	PROJECT: **1226 - Barrhaven Conservancy West**	
Checked: W.L./V.W.	LOCATION: **City of Ottawa**	
Dwg. Reference: Sanitary Drainage Plan	File Ref:	Date: **09 Dec 2022** · Sheet No. 1 of 8

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

1226_san.xlsx

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

Ottawa

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
STREET '28'																											
Contribution From STREET '25', Pipe 29A - 28A						2.73	231				0.00		0.00		0.00		2.73	2.73									
	28A	27A				2.73	231	3.50	2.62		0.00		0.00		0.00	0.00	0.00	2.73	0.78	3.40	53.5	300	0.20	43.25	0.08	0.61	0.36
Contribution From STREET '26', Pipe 123A - 27A						0.64	54				0.00		0.00		0.00		0.64	3.37									
	27A	32A				3.37	285	3.47	3.21		0.00		0.00		0.00	0.00	0.00	3.37	0.96	4.17	59.0	300	0.20	43.25	0.10	0.61	0.38
To STREET '27', Pipe 32A - 122A						3.37	285				0.00		0.00		0.00			3.37									
STREET '27'																											
Contribution From STREET '25', Pipe 410A - 36A						0.24	20				0.00		0.00		0.00		0.24	0.24									
	36A	35A	0.20		17	0.44	37	3.67	0.44		0.00		0.00		0.00	0.00	0.20	0.44	0.13	0.57	59.5	250	0.25	29.73	0.02	0.61	0.24
	35A	34A	0.20		17	0.64	54	3.65	0.64		0.00		0.00		0.00	0.00	0.20	0.64	0.18	0.82	50.5	250	0.25	29.73	0.03	0.61	0.26
	34A	33A	0.15		13	0.79	67	3.63	0.79		0.00		0.00		0.00	0.00	0.15	0.79	0.23	1.01	11.0	250	0.25	29.73	0.03	0.61	0.28
	33A	122A	0.33		28	1.12	95	3.60	1.11		0.00		0.00		0.00	0.00	0.33	1.12	0.32	1.43	54.5	250	0.25	29.73	0.05	0.61	0.31
To Centerline5 - 1006, Pipe 122A - 81A						1.12	95				0.00		0.00		0.00			1.12									
Contribution From STREET '28', Pipe 27A - 32A						3.37	285				0.00		0.00		0.00		3.37	3.37									
	32A	122A	0.31		26	3.68	311	3.46	3.48		0.00		0.00		0.00	0.00	0.31	3.68	1.05	4.54	51.5	300	0.20	43.25	0.10	0.61	0.39
To Centerline5 - 1006, Pipe 122A - 81A						3.68	311				0.00		0.00		0.00			3.68									
Centerline5 - 1006																											
Contribution From STREET '27', Pipe 32A - 122A						3.68	311				0.00		0.00		0.00		3.68	3.68									
Contribution From STREET '27', Pipe 33A - 122A						1.12	95				0.00		0.00		0.00		1.12	4.80									
	122A	81A				4.80	406	3.42	4.49		0.00		0.00		0.00	0.00	0.00	4.80	1.37	5.87	130.0	300	0.20	43.25	0.14	0.61	0.42
To STREET '8', Pipe 81A - 82A						4.80	406				0.00		0.00		0.00			4.80									
STREET '8'																											
	77A	78A	0.35		30	0.35	30	3.68	0.36		0.00		0.00		0.00	0.00	0.35	0.35	0.10	0.46	58.0	200	0.65	26.44	0.02	0.84	0.32
	78A	79A	0.13		11	0.48	41	3.67	0.49		0.00		0.00		0.00	0.00	0.13	0.48	0.14	0.62	10.5	200	0.35	19.40	0.03	0.62	0.28
	79A	80A	0.16		14	0.64	55	3.64	0.65		0.00		0.00		0.00	0.00	0.16	0.64	0.18	0.83	43.0	200	0.35	19.40	0.04	0.62	0.31
	80A	81A	0.16		14	0.80	69	3.63	0.81		0.00		0.00		0.00	0.00	0.16	0.80	0.23	1.04	14.0	250	0.25	29.73	0.03	0.61	0.28
Contribution From Centerline5 - 1006, Pipe 122A - 81A						4.80	406				0.00		0.00		0.00		4.80	5.60									
	81A	82A	0.34		29	5.94	504	3.38	5.52		0.00		0.00		0.00	0.00	0.34	5.94	1.70	7.22	56.0	300	0.20	43.25	0.17	0.61	0.45
	82A	83A	0.13		11	6.07	515	3.37	5.63		0.00		0.00		0.00	0.00	0.13	6.07	1.74	7.37	11.0	300	0.20	43.25	0.17	0.61	0.45
	83A	84A	0.19		16	6.26	531	3.37	5.80		0.00		0.00		0.00	0.00	0.19	6.26	1.79	7.59	51.0	300	0.20	43.25	0.18	0.61	0.46
	84A	86A	0.20		17	6.46	548	3.36	5.97		0.00		0.00		0.00	0.00	0.20	6.46	1.85	7.82	62.5	300	0.20	43.25	0.18	0.61	0.46
To STREET '2', Pipe 86A - 88A						6.46	548				0.00		0.00		0.00			6.46									
STREET '23'																											
	37A	39A	0.20		17	0.20	17	3.71	0.20		0.00		0.00		0.00	0.00	0.20	0.20	0.06	0.26	48.0	200	0.65	26.44	0.01	0.84	0.27
To STREET '25', Pipe 39A - 40A						0.20	17				0.00		0.00		0.00			0.20									
	38A	39A	0.17		15	0.17	15	3.72	0.18		0.00		0.00		0.00	0.00	0.17	0.17	0.05	0.23	28.5	200	0.65	26.44	0.01	0.84	0.26
To STREET '25', Pipe 39A - 40A						0.17	15				0.00		0.00		0.00			0.17									
	38A	42A	0.51		43	0.51	43	3.66	0.51		0.00		0.00		0.00	0.00	0.51	0.51	0.15	0.66	79.0	200	0.65	26.44	0.02	0.84	0.35
	42A	43A	0.22		19	0.73	62	3.64	0.73		0.00		0.00		0.00	0.00	0.22	0.73	0.21	0.94	13.5	200	0.35	19.40	0.05	0.62	0.31
	43A	44A	0.46		39	1.19	101	3.59	1.18		0.00		0.00		0.00	0.00	0.46	1.19	0.34	1.52	81.0	200	0.35	19.40	0.08	0.62	0.36
	44A	45A	0.46		39	1.65	140	3.56	1.62		0.00		0.00		0.00	0.00	0.46	1.65	0.47	2.09	80.5	200	0.35	19.40	0.11	0.62	0.40
To STREET '1', Pipe 45A - 46A						1.65	140				0.00		0.00		0.00			1.65									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha				
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph			
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =		0.286	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =		0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n =	(Conc)	0.013	(Pvc) 0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=		2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=		3.4	

Designed: M.S.

Checked: W.L./V.W.

Dwg. Reference: Sanitary Drainage Plan

PROJECT: 1226 - Barrhaven Conservancy West

LOCATION: City of Ottawa

File Ref:

Date: 09 Dec 2022

Sheet No. 2 of 8

LICENSED PROFESSIONAL ENGINEER W. LIU 100167932 22-12-09 PROVINCE OF ONTARIO

1226_san.xlsx

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

Ottawa

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
STREET '25'																											
	41A	36A	0.24		20	0.24	20	3.70	0.24		0.00		0.00		0.00	0.00	0.24	0.24	0.07	0.31	66.5	200	0.65	26.44	0.01	0.84	0.28
To STREET '27', Pipe 36A - 35A						0.24	20				0.00		0.00		0.00			0.24									
Contribution From STREET '23', Pipe 37A - 39A						0.20	17				0.00		0.00		0.00		0.20	0.20									
Contribution From STREET '23', Pipe 38A - 39A						0.17	15				0.00		0.00		0.00		0.17	0.37									
	39A	40A	0.48		40	0.85	72	3.62	0.85		0.00		0.00		0.00	0.00	0.48	0.85	0.24	1.09	9.0	200	0.35	19.40	0.06	0.62	0.33
	40A	41A				0.85	72	3.62	0.85		0.00		0.00		0.00	0.00	0.00	0.85	0.24	1.09	127.5	200	0.35	19.40	0.06	0.62	0.33
To STREET '1', Pipe 41A - 45A						0.85	72				0.00		0.00		0.00			0.85									
	36A	31A	0.22		19	0.22	19	3.71	0.23		0.00		0.00		0.00	0.00	0.22	0.22	0.06	0.29	44.0	200	0.65	26.44	0.01	0.84	0.27
Contribution From STREET '24', Pipe 15A - 31A						0.80	69				0.00		0.00		0.00		0.80	1.02									
	31A	30A	0.22		19	1.24	107	3.59	1.24		0.00		0.00		0.00	0.00	0.22	1.24	0.35	1.60	59.0	300	0.20	43.25	0.04	0.61	0.29
Contribution From STREET '21', Pipe 25A - 30A						1.41	119				0.00		0.00		0.00		1.41	2.65									
	30A	29A	0.06		5	2.71	231	3.50	2.62		0.00		0.00		0.00	0.00	0.06	2.71	0.78	3.39	16.5	300	0.20	43.25	0.08	0.61	0.36
	29A	28A	0.02		0	2.73	231	3.50	2.62		0.00		0.00		0.00	0.00	0.02	2.73	0.78	3.40	8.0	300	0.20	43.25	0.08	0.61	0.36
To STREET '28', Pipe 28A - 27A						2.73	231				0.00		0.00		0.00			2.73									
STREET '22'																											
Contribution From STREET '9', Pipe 1000A - 3A						0.57	48				0.00		0.00		0.00		0.57	0.57									
Contribution From STREET '9', Pipe 2A - 3A						0.14	12				13.70		0.00		0.00		13.84	14.41		0.00							
	3A	4A				0.71	60	3.64	0.71		13.70		0.00		0.00	4.44	0.00	14.41	4.12	9.27	14.0	300	0.20	43.25	0.21	0.61	0.48
	4A	5A	0.20		17	0.91	77	3.62	0.90		13.70		0.00		0.00	4.44	0.20	14.61	4.18	9.52	42.5	300	0.20	43.25	0.22	0.61	0.49
	5A	6A	0.10		9	1.01	86	3.61	1.01		13.70		0.00		0.00	4.44	0.10	14.71	4.21	9.65	8.0	300	0.20	43.25	0.22	0.61	0.49
	6A	7A	0.53		44	1.54	130	3.57	1.50		13.70		0.00		0.00	4.44	0.53	15.24	4.36	10.30	87.0	300	0.20	43.25	0.24	0.61	0.50
	7A	9A	0.49		41	2.03	171	3.54	1.96		13.70		0.00		0.00	4.44	0.49	15.73	4.50	10.90	89.0	300	0.20	43.25	0.25	0.61	0.51
To STREET '24', Pipe 9A - 10A						2.03	171				13.70		0.00		0.00			15.73		0.00							
STREET '24'																											
	11A	12A	0.47		40	0.47	40	3.67	0.48		0.00		0.00		0.00	0.00	0.47	0.47	0.13	0.61	82.5	200	0.65	26.44	0.02	0.84	0.34
	12A	13A	0.09		8	0.56	48	3.65	0.57		0.00		0.00		0.00	0.00	0.09	0.56	0.16	0.73	11.5	250	0.25	29.73	0.02	0.61	0.25
	13A	14A	0.17		15	0.73	63	3.63	0.74		0.00		0.00		0.00	0.00	0.17	0.73	0.21	0.95	33.5	250	0.25	29.73	0.03	0.61	0.27
	14A	15A	0.07		6	0.80	69	3.63	0.81		0.00		0.00		0.00	0.00	0.07	0.80	0.23	1.04	16.0	250	0.25	29.73	0.03	0.61	0.28
	15A	31A				0.80	69	3.63	0.81		0.00		0.00		0.00	0.00	0.00	0.80	0.23	1.04	10.0	250	0.25	29.73	0.03	0.61	0.28
To STREET '25', Pipe 31A - 30A						0.80	69				0.00		0.00		0.00			0.80									
Contribution From STREET '9', Pipe 1A - 8A						0.44	37				0.00		0.00		0.00		0.44	0.44									
	8A	9A	0.20		17	0.64	54	3.65	0.64		0.00		0.00		0.00	0.00	0.20	0.64	0.18	0.82	62.5	200	0.35	19.40	0.04	0.62	0.31
Contribution From STREET '22', Pipe 7A - 9A						2.03	171				13.70		0.00		0.00		15.73	16.37		0.00							
	9A	10A	0.26		22	2.93	247	3.49	2.79		13.70		0.00		0.00	4.44	0.26	16.63	4.76	11.99	67.5	300	0.20	43.25	0.28	0.61	0.52
	10A	11A	0.69		58	3.62	305	3.46	3.42		13.70		0.00		0.00	4.44	0.69	17.32	4.95	12.81	117.5	300	0.20	43.25	0.30	0.61	0.53
To STREET '1', Pipe 11A - 41A						3.62	305				13.70		0.00		0.00			17.32		0.00							
STREET '21'																											
Contribution From STREET '9', Pipe 17A - 18A						0.32	28				0.00		0.00		0.00		0.32	0.32									
	18A	19A	0.62		52	0.94	80	3.62	0.94		0.00		0.00		0.00	0.00	0.62	0.94	0.27	1.21	105.5	250	0.25	29.73	0.04	0.61	0.29
	19A	20A	0.67		56	1.61	136	3.56	1.57		0.00		0.00		0.00	0.00	0.67	1.61	0.46	2.03	116.0	250	0.25	29.73	0.07	0.61	0.34
To STREET '1', Pipe 20A - 11A						1.61	136				0.00		0.00		0.00			1.61									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha				
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph			
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.286	L/s/ha	
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s	
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013	(Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=	2.7		
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4		

Designed: M.S.

Checked: W.L./V.W.

Dwg. Reference: Sanitary Drainage Plan

PROJECT: **1226 - Barrhaven Conservancy West**

LOCA[TION]: **City of Ottawa**

File R[ef]:

Date: **09 Dec 2022**

Sheet No. 3 of 8

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

1226_san.xlsx

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

Ottawa

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
	20A	21A	0.61		51	0.61	51	3.65	0.60		0.00		0.00		0.00	0.00	0.61	0.61	0.17	0.78	105.5	200	0.65	26.44	0.03	0.84	0.37
	21A	22A	0.06		5	0.67	56	3.64	0.66		0.00		0.00		0.00	0.00	0.06	0.67	0.19	0.85	9.0	200	0.35	19.40	0.04	0.62	0.31
	22A	23A	0.19		16	0.86	72	3.62	0.85		0.00		0.00		0.00	0.00	0.19	0.86	0.25	1.09	33.0	250	0.25	29.73	0.04	0.61	0.29
	23A	24A	0.16		14	1.02	86	3.61	1.01		0.00		0.00		0.00	0.00	0.16	1.02	0.29	1.30	27.5	250	0.25	29.73	0.04	0.61	0.30
	24A	25A	0.24		20	1.26	106	3.59	1.23		0.00		0.00		0.00	0.00	0.24	1.26	0.36	1.59	42.0	250	0.25	29.73	0.05	0.61	0.32
	25A	30A	0.15		13	1.41	119	3.58	1.38		0.00		0.00		0.00	0.00	0.15	1.41	0.40	1.78	33.5	250	0.25	29.73	0.06	0.61	0.33
To STREET '25', Pipe 30A - 29A						1.41	119				0.00		0.00		0.00			1.41									
STREET '1'																											
Contribution From STREET '21', Pipe 19A - 20A						1.61	136				0.00		0.00		0.00		1.61	1.61									
	20A	11A	0.03		3	1.64	139	3.56	1.60		0.00		0.00		0.00	0.00	0.03	1.64	0.47	2.07	59.0	300	0.20	43.25	0.05	0.61	0.31
Contribution From STREET '24', Pipe 10A - 11A						3.62	305				13.70		0.00		0.00		17.32	18.96		0.00							
	11A	41A	0.03		3	5.29	447	3.40	4.92		13.70		0.00		0.00	4.44	0.03	18.99	5.43	14.80	60.0	375	0.15	67.91	0.22	0.61	0.49
To STREET '1', Pipe 41A - 45A						5.29	447				13.70		0.00		0.00			18.99		0.00							
STREET '1'																											
	106A	107A	0.18		19	0.18	19	3.71	0.23		0.00		0.00		0.00	0.00	0.18	0.18	0.05	0.28	37.0	200	0.65	26.44	0.01	0.84	0.27
To STREET '6', Pipe 107A - 108A						0.18	19				0.00		0.00		0.00			0.18									
	110A	112A	0.20		21	0.20	21	3.70	0.25		0.00		0.00		0.00	0.00	0.20	0.20	0.06	0.31	35.5	200	0.65	26.44	0.01	0.84	0.28
To STREET '7', Pipe 112A - 113A						0.20	21				0.00		0.00		0.00			0.20									
	111A	112A	0.13		14	0.13	14	3.72	0.17		0.00		0.00		0.00	0.00	0.13	0.13	0.04	0.21	23.0	200	0.65	26.44	0.01	0.84	0.24
To STREET '7', Pipe 112A - 113A						0.13	14				0.00		0.00		0.00			0.13									
	75A	102A	0.77		80	0.77	80	3.62	0.94		0.00		0.00		0.00	0.00	0.77	0.77	0.22	1.16	110.0	200	0.65	26.44	0.04	0.84	0.42
To STREET '5', Pipe 102A - 103A						0.77	80				0.00		0.00		0.00			0.77									
	75A	76A	0.11		11	0.11	11	3.73	0.13		0.00		0.00		0.00	0.00	0.11	0.11	0.03	0.16	23.5	200	0.65	26.44	0.01	0.84	0.23
To STREET '2', Pipe 76A - 86A						0.11	11				0.00		0.00		0.00			0.11									
Contribution From STREET '1', Pipe 11A - 41A						5.29	447				13.70		0.00		0.00		18.99	18.99		0.00							
Contribution From STREET '25', Pipe 40A - 41A						0.85	72				0.00		0.00		0.00		0.85	19.84									
	41A	45A	0.51		43	6.65	562	3.36	6.12		13.70		0.00	0.74	0.74	4.52	1.25	21.09	6.03	16.67	114.5	375	0.15	67.91	0.25	0.61	0.51
Contribution From STREET '23', Pipe 44A - 45A						1.65	140				0.00		0.00		0.00		1.65	22.74									
	45A	46A	0.18		15	8.48	717	3.31	7.69		13.70		0.00		0.74	4.52	0.18	22.92	6.56	18.77	42.5	375	0.15	67.91	0.28	0.61	0.52
	46A	47A				8.48	717	3.31	7.69		13.70		0.00		0.74	4.52	0.00	22.92	6.56	18.77	50.0	375	0.15	67.91	0.28	0.61	0.52
	47A	48A	0.52		44	9.00	761	3.30	8.14		13.70		0.00		0.74	4.52	0.52	23.44	6.70	19.36	80.5	375	0.15	67.91	0.29	0.61	0.53
	48A	76A	0.51		43	9.51	804	3.29	8.57		13.70		0.00		0.74	4.52	0.51	23.95	6.85	19.93	80.5	375	0.15	67.91	0.29	0.61	0.53
To STREET '2', Pipe 76A - 86A						9.51	804				13.70		0.00		0.74			23.95		0.00							
STREET '12'																											
	60A	98A	0.16		17	0.16	17	3.71	0.20		0.00		0.00		0.00	0.00	0.16	0.16	0.05	0.25	44.5	200	0.65	26.44	0.01	0.84	0.26
Contribution From STREET '18', Pipe 68A - 98A						0.26	27				0.00		0.00		0.00		0.26	0.42									
	98A	99A	0.18		19	0.60	63	3.63	0.74		0.00		0.00		0.00	0.00	0.18	0.60	0.17	0.91	44.0	250	0.25	29.73	0.03	0.61	0.27
Contribution From STREET '19', Pipe 70A - 99A						0.30	31				0.00		0.00		0.00		0.30	0.90									
	99A	100A	0.23		24	1.13	118	3.58	1.37		0.00		0.00		0.00	0.00	0.23	1.13	0.32	1.69	62.5	250	0.25	29.73	0.06	0.61	0.33
To STREET '20', Pipe 100A - 74A						1.13	118				0.00		0.00		0.00			1.13									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha	
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow = 0.286 L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity = 0.600 m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc) 0.013 (Pvc) 0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff= 2.7
Institutional =	0.32	l/s/Ha			Single house coeff= 3.4

Designed: M.S.

Checked: W.L./V.W.

Dwg. Reference: Sanitary Drainage Plan

PROJECT: 226 - Barrhaven Conservancy West

LOCATI City of Ottawa

File Ref:

Date: 09 Dec 2022

Sheet No. 4 of 8

LICENSED PROFESSIONAL ENGINEER W. LIU 100167932 22-12-09 PROVINCE OF ONTARIO

1226_san.xlsx

SANITARY SEWER CALCULATION SHEET

Ottawa

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Centerline7 - 30																											
	92A	94A	0.51		43	0.51	43	3.66	0.51		0.00		0.00		0.00	0.00	0.51	0.51	0.15	0.66	71.0	200	0.65	26.44	0.02	0.84	0.35
To STREET '16', Pipe 94A - 95A						0.51	43				0.00		0.00		0.00			0.51									
STREET '13'																											
Contribution From STREET '16', Pipe 94A - 95A						0.51	43				0.00		0.00		0.00		0.51	0.51									
	95A	96A	0.52		54	1.03	97	3.60	1.13		0.00		0.00		0.00	0.00	0.52	1.03	0.29	1.43	75.5	250	0.25	29.73	0.05	0.61	0.31
	96A	97A	0.42		44	1.45	141	3.56	1.63		0.00		0.00		0.00	0.00	0.42	1.45	0.41	2.04	67.0	250	0.25	29.73	0.07	0.61	0.34
To STREET '20', Pipe 97A - 101A						1.45	141				0.00		0.00		0.00			1.45									
STREET '19'																											
	70A	71A	0.38		40	0.38	40	3.67	0.48		0.00		0.00		0.00	0.00	0.38	0.38	0.11	0.58	80.0	200	0.65	26.44	0.02	0.84	0.34
To STREET '11', Pipe 71A - 72A						0.38	40				0.00		0.00		0.00			0.38									
	70A	99A	0.30		31	0.30	31	3.68	0.37		0.00		0.00		0.00	0.00	0.30	0.30	0.09	0.46	66.0	200	0.65	26.44	0.02	0.84	0.32
To STREET '12', Pipe 99A - 100A						0.30	31				0.00		0.00		0.00			0.30									
STREET '18'																											
	68A	69A	0.32		33	0.32	33	3.68	0.39		0.00		0.00		0.00	0.00	0.32	0.32	0.09	0.48	80.5	200	0.65	26.44	0.02	0.84	0.32
To STREET '11', Pipe 69A - 71A						0.32	33				0.00		0.00		0.00			0.32									
	68A	98A	0.26		27	0.26	27	3.69	0.32		0.00		0.00		0.00	0.00	0.26	0.26	0.07	0.40	66.0	200	0.65	26.44	0.02	0.84	0.30
To STREET '12', Pipe 98A - 99A						0.26	27				0.00		0.00		0.00			0.26									
STREET '14'																											
	65A	66A	0.34		35	0.34	35	3.67	0.42		0.00		0.00		0.00	0.00	0.34	0.34	0.10	0.51	67.5	200	0.65	26.44	0.02	0.84	0.33
	66A	67A	0.34		35	0.68	70	3.63	0.82		0.00		0.00		0.00	0.00	0.34	0.68	0.19	1.02	74.0	250	0.25	29.73	0.03	0.61	0.28
To STREET '11', Pipe 67A - 69A						0.68	70				0.00		0.00		0.00			0.68									
STREET '15'																											
Contribution From STREET '9', Pipe 490A - 62A						0.31	32				0.00		0.00		0.00		0.31	0.31									
Contribution From STREET '9', Pipe 570A - 62A						0.10	10				0.00		0.00		0.00		0.10	0.41									
	62A	63A				0.41	42	3.66	0.50		0.00		0.00		0.00	0.00	0.00	0.41	0.12	0.62	9.5	200	0.35	19.40	0.03	0.62	0.28
	63A	64A	0.50		52	0.91	94	3.60	1.10		0.00		0.00		0.00	0.00	0.50	0.91	0.26	1.36	119.0	250	0.25	29.73	0.05	0.61	0.31
To STREET '16', Pipe 64A - 67A						0.91	94				0.00		0.00		0.00			0.91									
STREET '16'																											
	93A	94A				0.00					0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	23.0	200	1.00	32.80	0.00	1.04	0.06
Contribution From Centerline7 - 30, Pipe 92A - 94A						0.51	43				0.00		0.00		0.00		0.51	0.51									
	94A	95A				0.51	43	3.66	0.51		0.00		0.00		0.00	0.00	0.00	0.51	0.15	0.66	30.5	250	0.25	29.73	0.02	0.61	0.24
To STREET '13', Pipe 95A - 96A						0.51	43				0.00		0.00		0.00			0.51									
	60A	61A	0.28		29	0.28	29	3.69	0.35		0.00		0.00		0.00	0.00	0.28	0.28	0.08	0.43	58.0	200	0.65	26.44	0.02	0.84	0.30
Contribution From STREET '9', Pipe 59A - 61A						0.46	47				0.00		0.00		0.35		0.81	1.09									
	61A	64A	0.13		14	0.87	90	3.60	1.05		0.00		0.00		0.35	0.04	0.13	1.22	0.35	1.44	44.5	250	0.25	29.73	0.05	0.61	0.31

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha			
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph		
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.286	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013 (Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=	2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4	

Designed: M.S.	PROJECT: 1226 - Barrhaven Conservancy West		
Checked: W.L./V.W.	LOCATION: City of Ottawa		
Dwg. Reference: Sanitary Drainage Plan	File Ref:	Date: 09 Dec 2022	Sheet No. 5 of 8

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

1226_san.xlsx

SANITARY SEWER CALCULATION SHEET

Ottawa

Manning's n=0.013

LOCATION: STREET	FROM M.H.	TO M.H.	RESIDENTIAL AREA AND POPULATION: AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	COMM AREA (ha)	COMM ACCU. AREA (ha)	INSTIT AREA (ha)	INSTIT ACCU. AREA (ha)	PARK AREA (ha)	PARK ACCU. AREA (ha)	C+I+I PEAK FLOW (l/s)	INFILTRATION TOTAL AREA (ha)	INFILTRATION ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	PIPE DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Contribution From STREET '15', Pipe 63A - 64A						0.91	94				0.00		0.00		0.00		0.91	2.13									
	64A	67A	0.11		11	1.89	195	3.52	2.23		0.00		0.00		0.35	0.04	0.11	2.24	0.64	2.90	44.0	250	0.25	29.73	0.10	0.61	0.38
To STREET '11', Pipe 67A - 69A						1.89	195				0.00		0.00		0.35			2.24									
STREET '11'																											
Contribution From STREET '16', Pipe 64A - 67A						1.89	195				0.00		0.00		0.35		2.24	2.24									
Contribution From STREET '14', Pipe 66A - 67A						0.68	70				0.00		0.00		0.00		0.68	2.92									
	67A	69A	0.14		15	2.71	280	3.47	3.15		0.00		0.00		0.35	0.04	0.14	3.06	0.88	4.06	44.0	250	0.25	29.73	0.14	0.61	0.42
Contribution From STREET '18', Pipe 680A - 69A						0.32	33				0.00		0.00		0.00		0.32	3.38									
	69A	71A	0.16		17	3.19	330	3.45	3.69		0.00		0.00		0.35	0.04	0.16	3.54	1.01	4.74	44.0	250	0.25	29.73	0.16	0.61	0.44
Contribution From STREET '19', Pipe 700A - 71A						0.38	40				0.00		0.00		0.00		0.38	3.92									
	71A	72A	0.21		22	3.78	392	3.42	4.35		0.00		0.00		0.35	0.04	0.21	4.13	1.18	5.56	63.0	250	0.25	29.73	0.19	0.61	0.46
To STREET '20', Pipe 72A - 74A						3.78	392				0.00		0.00		0.35			4.13									
STREET '9'																											
	1A	3A	0.57		48	0.57	48	3.65	0.57		0.00		0.00		0.00	0.00	0.57	0.57	0.16	0.73	99.5	200	0.65	26.44	0.03	0.84	0.36
To STREET '22', Pipe 3A - 4A						0.57	48				0.00		0.00		0.00			0.57									
	1A	8A	0.44		37	0.44	37	3.67	0.44		0.00		0.00		0.00	0.00	0.44	0.44	0.13	0.57	75.0	200	0.65	26.44	0.02	0.84	0.34
To STREET '24', Pipe 8A - 9A						0.44	37				0.00		0.00		0.00			0.44									
						0.00	0			13.70	13.70		0.00		0.00		13.70	13.70		0.00							
	2A	3A	0.14		12	0.14	12	3.73	0.14		13.70		0.00		0.00	4.44	0.14	13.84	3.96	8.54	34.5	300	0.65	77.96	0.11	1.10	0.72
To STREET '22', Pipe 3A - 4A						0.14	12				13.70		0.00		0.00			13.84		0.00							
	49A	62A	0.31		32	0.31	32	3.68	0.38		0.00		0.00		0.00	0.00	0.31	0.31	0.09	0.47	62.5	200	0.65	26.44	0.02	0.84	0.32
To STREET '15', Pipe 62A - 63A						0.31	32				0.00		0.00		0.00			0.31									
	49A	51A	0.24		25	0.24	25	3.69	0.30		0.00		0.00		0.00	0.00	0.24	0.24	0.07	0.37	59.5	200	0.65	26.44	0.01	0.84	0.29
To STREET '10', Pipe 51A - 52A						0.24	25				0.00		0.00		0.00			0.24									
	50A	51A	0.11		11	0.11	11	3.73	0.13		0.00		0.00		0.00	0.00	0.11	0.11	0.03	0.16	31.5	200	1.00	32.80	0.01	1.04	0.27
To STREET '10', Pipe 51A - 52A						0.11	11				0.00		0.00		0.00			0.11									
	57A	62A	0.10		10	0.10	10	3.73	0.12		0.00		0.00		0.00	0.00	0.10	0.10	0.03	0.15	27.5	200	0.65	26.44	0.01	0.84	0.22
To STREET '15', Pipe 62A - 63A						0.10	10				0.00		0.00		0.00			0.10									
	16A	17A	0.21		18	0.21	18	3.71	0.22		0.00		0.00		0.00	0.00	0.21	0.21	0.06	0.28	43.5	200	0.65	26.44	0.01	0.84	0.27
	17A	18A	0.11		10	0.32	28	3.69	0.33		0.00		0.00		0.00	0.00	0.11	0.32	0.09	0.43	11.0	250	0.25	29.73	0.01	0.61	0.21
To STREET '21', Pipe 18A - 19A						0.32	28				0.00		0.00		0.00			0.32									
	57A	58A	0.04		4	0.04	4	3.76	0.05		0.00		0.00		0.00	0.00	0.04	0.04	0.01	0.06	9.0	200	0.65	26.44	0.00	0.84	0.17
	58A	59A	0.12		12	0.16	16	3.71	0.19		0.00		0.00		0.00	0.00	0.12	0.16	0.05	0.24	13.0	200	0.95	31.97	0.01	1.02	0.29
	59A	61A	0.30		31	0.46	47	3.66	0.56		0.00		0.00	0.35	0.35	0.04	0.65	0.81	0.23	0.83	98.5	250	0.25	29.73	0.03	0.61	0.26
To STREET '16', Pipe 61A - 64A						0.46	47				0.00		0.00		0.35			0.81									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha			
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph		
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.286	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013	(Pvc) 0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=	2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4	

Designed: M.S.

Checked: W.L./V.W.

Dwg. Reference: Sanitary Drainage Plan

PROJECT: 1226 - Barrhaven Conservancy West

LOCATION: City of Ottawa

File Ref:

Date: 09 Dec 2022

Sheet No. 6 of 8

LICENSED PROFESSIONAL ENGINEER W. LIU 100167932 22-12-09 PROVINCE OF ONTARIO

1226_san.xlsx

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

Ottawa

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
STREET '10'																											
Contribution From STREET '9', Pipe 49A - 51A						0.24	25				0.00		0.00		0.00		0.24	0.24									
Contribution From STREET '9', Pipe 50A - 51A						0.11	11				0.00		0.00		0.00		0.11	0.35									
	51A	52A				0.35	36	3.67	0.43		0.00		0.00		0.00	0.00	0.00	0.35	0.10	0.53	7.5	250	0.25	29.73	0.02	0.61	0.23
	52A	53A	0.73		61	1.08	97	3.60	1.13		0.00		0.00		0.00	0.00	0.73	1.08	0.31	1.44	127.5	250	0.25	29.73	0.05	0.61	0.31
	53A	54A	0.42		35	1.50	132	3.57	1.53		0.00		0.00		0.00	0.00	0.42	1.50	0.43	1.95	75.0	250	0.25	29.73	0.07	0.61	0.34
	54A	55A	0.40		34	1.90	166	3.54	1.91		0.00		0.00		0.00	0.00	0.40	1.90	0.54	2.45	67.5	250	0.25	29.73	0.08	0.61	0.36
	55A	56A	0.15		13	2.05	179	3.53	2.05		0.00		0.00		0.00	0.00	0.15	2.05	0.59	2.64	12.0	250	0.25	29.73	0.09	0.61	0.37
To STREET '20', Pipe 56A - 72A						2.05	179				0.00		0.00		0.00			2.05									
STREET '20'																											
Contribution From STREET '13', Pipe 96A - 97A						1.45	141				0.00		0.00		0.00		1.45	1.45									
	97A	101A	0.17		18	1.62	159	3.55	1.83		0.00		0.00		0.00	0.00	0.17	1.62	0.46	2.29	15.5	250	0.25	29.73	0.08	0.61	0.36
	101A	100A	0.22		23	1.84	182	3.53	2.08		0.00		0.00		0.00	0.00	0.22	1.84	0.53	2.61	51.5	250	0.25	29.73	0.09	0.61	0.37
Contribution From STREET '12', Pipe 99A - 100A						1.13	118				0.00		0.00		0.00		1.13	2.97									
	100A	74A	0.50		52	3.47	352	3.44	3.92		0.00		0.00		0.00	0.00	0.50	3.47	0.99	4.91	83.0	250	0.25	29.73	0.17	0.61	0.44
To STREET '17', Pipe 74A - 76A						3.47	352				0.00		0.00		0.00			3.47									
Contribution From STREET '10', Pipe 55A - 56A						2.05	179				0.00		0.00		0.00		2.05	2.05									
	56A	72A	0.20		17	2.25	196	3.52	2.24		0.00		0.00		0.00	0.00	0.20	2.25	0.64	2.88	50.0	250	0.25	29.73	0.10	0.61	0.38
Contribution From STREET '11', Pipe 71A - 72A						3.78	392				0.00		0.00		0.35		4.13	6.38									
			0.18		15	6.21	603				0.00		0.00		0.35		0.18	6.56									
	72A	74A	0.19		20	6.40	623	3.34	6.74		0.00		0.00		0.35	0.04	0.19	6.75	1.93	8.71	63.0	250	0.25	29.73	0.29	0.61	0.53
To STREET '17', Pipe 74A - 76A						6.40	623				0.00		0.00		0.35			6.75									
STREET '17'																											
Contribution From STREET '20', Pipe 100A - 74A						3.47	352				0.00		0.00		0.00		3.47	3.47									
Contribution From STREET '20', Pipe 72A - 74A						6.40	623				0.00		0.00		0.35		6.75	10.22									
	74A	76A				9.87	975	3.25	10.26		0.00		0.00		0.35	0.04	0.00	10.22	2.92	13.22	68.5	250	0.25	29.73	0.44	0.61	0.59
To STREET '2', Pipe 76A - 86A						9.87	975				0.00		0.00		0.35			10.22									
STREET '2'																											
Contribution From STREET '1', Pipe 48A - 76A						9.51	804				13.70		0.00		0.74		23.95	23.95		0.00							
Contribution From STREET '17', Pipe 74A - 76A						9.87	975				0.00		0.00		0.35		10.22	34.17									
Contribution From STREET '1', Pipe 75A - 76A						0.11	11				0.00		0.00		0.00		0.11	34.28									
	76A	86A				19.49	1790	3.10	17.97		13.70		0.00		1.09	4.56	0.00	34.28	9.80	32.33	65.0	375	0.15	67.91	0.48	0.61	0.61
Contribution From STREET '8', Pipe 84A - 86A						6.46	548				0.00		0.00		0.00		6.46	40.74									
Contribution From STREET '3', Pipe 85A - 86A						0.07	7				0.00		0.00		0.00		0.07	40.81									
	86A	88A	0.16		17	26.18	2362	3.02	23.14		13.70		0.00		1.09	4.56	0.16	40.97	11.72	39.41	44.0	375	0.15	67.91	0.58	0.61	0.64
Contribution From STREET '4', Pipe 87A - 88A						0.10	10				0.00		0.00		0.00		0.10	41.07									
	88A	89A	0.16		17	26.44	2389	3.02	23.38		13.70		0.00		1.09	4.56	0.16	41.23	11.79	39.73	36.0	375	0.15	67.91	0.59	0.61	0.64
	89A	90A	0.12		12	26.56	2401	3.02	23.48		13.70		0.00		1.09	4.56	0.12	41.35	11.83	39.87	14.0	375	0.15	67.91	0.59	0.61	0.64
	90A	91A	0.22		23	26.78	2424	3.02	23.69		13.70		0.00		1.09	4.56	0.22	41.57	11.89	40.14	60.5	375	0.15	67.91	0.59	0.61	0.64
	91A	105A	0.24		25	27.02	2449	3.01	23.91		13.70		0.00		1.09	4.56	0.24	41.81	11.96	40.43	67.5	375	0.15	67.91	0.60	0.61	0.64
Contribution From STREET '5', Pipe 104A - 105A						2.13	222				0.00		0.00		0.00		2.13	43.94									
	105A	109A				29.15	2671	2.99	25.86		13.70		0.00		1.09	4.56	0.00	43.94	12.57	42.99	44.0	375	0.15	67.91	0.63	0.61	0.65
Contribution From STREET '6', Pipe 108A - 109A						0.78	81				0.00		0.00		0.00		0.78	44.72									
	109A	119A				29.93	2752	2.98	26.57		13.70		0.00		1.09	4.56	0.00	44.72	12.79	43.92	44.5	375	0.15	67.91	0.65	0.61	0.65

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha
Average Daily Flow =	280	l/p/day		
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha
Max Res. Peak Factor =	4.00			
Commercial/Inst./Park Peak Factor =	1.00			
Institutional =	0.32	l/s/Ha		

Industrial Peak Factor = as per MOE Graph
Extraneous Flow = 0.286 L/s/ha
Minimum Velocity = 0.600 m/s
Manning's n = (Conc) 0.013 (Pvc) 0.013
Townhouse coeff= 2.7
Single house coeff= 3.4

Designed: M.S.

Checked: W.L./V.W.

Dwg. Reference: Sanitary Drainage Plan

PROJECT: 1226 - Barrhaven Conservancy West

LOCATION: City of Ottawa

File Ref:

Date: 09 Dec 2022

Sheet No. 7 of 8

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

1226_san.xlsx

SANITARY SEWER CALCULATION SHEET

Ottawa

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Contribution From STREET '7', Pipe 113A - 119A						1.06	111				0.00		0.00		0.00		1.06	45.78									
Contribution From Centerline6 - 29, Pipe 118A - 119A						0.47	40				0.00		0.00		0.44		0.91	46.69									
	119A	120A				31.46	2903	2.96	27.88		13.70		0.00		1.53	4.60	0.00	46.69	13.35	45.84	19.5	375	0.15	67.91	0.68	0.61	0.66
To Centerline4 - 1004, Pipe 120A - 121A						31.46	2903				13.70		0.00		1.53			46.69		0.00							
Centerline4 - 1004																											
Contribution From STREET '2', Pipe 119A - 120A						31.46	2903				13.70		0.00		1.53		46.69	46.69		0.00							
	120A	121A				31.46	2903	2.96	27.88		13.70		0.00		1.53	4.60	0.00	46.69	13.35	45.84	28.0	375	0.15	67.91	0.68	0.61	0.66

Projected flow of 45.84 L/s which is less than the previously projected 56.22 L/s from the Phase 5 draft plan update submission.

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha					
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph				
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =		0.286	L/s/ha	
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =		0.600	m/s	
Max Res. Peak Factor =	4.00				Manning's n =	(Conc)	0.013	(Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=		2.7		
Institutional =	0.32	l/s/Ha			Single house coeff=		3.4		

Designed: M.S.

Checked: W.L./V.W.

Dwg. Reference: Sanitary Drainage Plan

PROJECT: **1226 - Barrhaven Conservancy West**

LOCATION: **City of Ottawa**

File Ref:

Date: **09 Dec 2022**

Sheet No. 8 of 8

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

1226_san.xlsx

APPENDIX D

STORMWATER

May 31, 2020

City of Ottawa
110 Laurier Avenue,
Ottawa, ON K1P 1J1

Attention: Doug James

Subject: **Barrhaven Conservancy Development Corporation**
Status of As-Built Grading
Related: RVCA Permit # RV5-4419 and RV5-1718)
Vacant land on the north side of the Jock River generally bounded by Highway 416 and the Fraser Clarke Creek, City of Ottawa

Dear Mr. James:

The RVCA has reviewed information recently submitted by David Schaeffer Engineering Ltd. including as-built grades in support of works approved by the Rideau Valley Conservation Authority under Section 28 of the Conservation Authorities Act (Permit File Number: RV5-4419 and RV5-1718). The RVCA offers the following comments related to future development proposed for the area within the scope of approved the permits.

The subject lands as identified as part of Lots 11, 12, 13, 14, 15 former geographic Township of Nepean, Concessions 3 & 4, now in the City of Ottawa have been addressed through the general placement of fill and the formal construction of a berm around the perimeter of four blocks within the subject lands. The site specific elevations of the berm have been reviewed by the RVCA and are generally accepted as being appropriate as removing these lands from the floodplain in accordance with the aforementioned approved permits.

The detailed grading plans submitted by David Schaeffer Engineering Ltd. titled As Constructed plan of Berms and Cut Areas – Barrhaven Conservancy", dated May 27, 2020, prepared by Adam Fobert, P.Eng. of DSEL, DSEL File Number 16891 using the following resources:

- Orthoimagery Survey, dated April 20, 2020, acquired and processed by First Base Solutions a division of JD Barnes Ltd and certified by Chris Fox, O.L.S., A.L.S., P. Eng. of JD Barnes Ltd, file reference number 2037OTTA0001;
- Topographic Detail of Part of Lot 13, 14,&15 Concession 3&4, dated May 6, 2020, certified by Chris Fox, O.L.S., A.L.S., P. Eng. of JD Barnes Ltd, file reference number 16-10-127-00;

- Contractor as-built collected by the Tomlinson Group of Companies of Phase 1 dated May 15, 2020, reviewed by Jeremy Chouindard, EIT and certified by Stephen Pichette, P.Eng. of DSEL

The above information indicates that land within the berm have generally been raised to exceed the flood elevation cross sections throughout the project area. However, it is noted that as this is considered an active construction site the presence of lower areas to manage construction, on-site erosion and sediment control show lower elevations. These areas will be addressed through the construction process, as sufficient material is presently stockpiled for this purpose to ensure. For the purposes of the floodplain, these areas are considered removed by virtue of the berm.

Conclusion:

The grade modifications, including construction of the berm and filling behind the berm, as documented in the above noted "as constructed" plans, have been completed in accordance with the plans approved by the RVCA under permits RV5-4419 and RV5-1718.

Please feel free to contact our office with any questions or comments you may have.

Respectfully,

Terry K. Davidson

Terry Davidson, P.Eng
Director of Engineering and Regulations
Rideau Valley Conservation Authority
613-692-3571 x1107
terry.davidson@rvca.ca

attach: Technical memorandum by Evelyn Liu, M.Asc., P.Eng. Water Resources Engineer, RVCA dated May 29, 2020

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Manning 0.013

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Arterial Roads Return Frequency = 10 years

Ottawa

Location	From Node	To Node	2 YEAR AREA (Ha)	2 YEAR R	2 YEAR Indiv. 2.78 AC	2 YEAR Accum. 2.78 AC	5 YEAR AREA (Ha)	5 YEAR R	5 YEAR Indiv. 2.78 AC	5 YEAR Accum. 2.78 AC	10 YEAR AREA (Ha)	10 YEAR R	10 YEAR Indiv. 2.78 AC	10 YEAR Accum. 2.78 AC	100 YEAR AREA (Ha)	100 YEAR R	100 YEAR Indiv. 2.78 AC	100 YEAR Accum. 2.78 AC	Time of Conc. (min)	Intensity 2 Year (mm/h)	Intensity 5 Year (mm/h)	Intensity 10 Year (mm/h)	Intensity 100 Year (mm/h)	Peak Flow Q (l/s)	DIA. (mm) (actual)	DIA. (mm) (nominal)	TYPE	SLOPE (%)	LENGTH (m)	CAPACITY (l/s)	VELOCITY (m/s)	TIME OF FLOW (min)	RATIO Q/Q full
STREET '14'																																	
			0.14	0.80	0.31	0.31			0.00	0.00			0.00	0.00			0.00	0.00															
	63	64	0.20	0.68	0.38	0.69			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	53	375	375	PVC	0.30	67.0	96.0323	0.8695	1.2843	0.551
			0.14	0.80	0.31	1.00			0.00	0.00			0.00	0.00			0.00	0.00															
	64	65	0.23	0.68	0.43	1.44			0.00	0.00			0.00	0.00			0.00	0.00	11.28	72.20	97.87	114.69	167.61	104	750	750	CONC	0.11	74.5	369.2322	0.8358	1.4857	0.281
To STREET '11', Pipe 65 - 67						1.44				0.00				0.00				0.00	12.77														
STREET '15'																																	
Contribution From STREET '9', Pipe 470 - 60						0.47				0.00				0.00				0.00	11.24														
Contribution From STREET '9', Pipe 59 - 60						0.19				0.00				0.00				0.00	10.59														
	60	61	0.01	0.68	0.02	0.68			0.00	0.00			0.00	0.00			0.00	0.00	11.24	72.36	98.08	114.95	167.99	49	600	600	CONC	0.15	10.5	237.8056	0.8411	0.2081	0.207
	61	62	0.50	0.80	1.11	1.79			0.00	0.00			0.00	0.00			0.00	0.00	11.45	71.67	97.13	113.83	166.35	128	750	750	CONC	0.11	124.5	369.2322	0.8358	2.4827	0.348
To STREET '16', Pipe 62 - 65						1.79				0.00				0.00				0.00	13.93														
STREET '11'																																	
Contribution From STREET '16', Pipe 62 - 65						3.70				0.49				0.00				0.00	14.81														
Contribution From STREET '14', Pipe 64 - 65						1.44				0.00				0.00				0.00	12.77														
	65	67	0.18	0.68	0.34	5.47			0.00	0.49			0.00	0.00			0.00	0.00	14.81	62.23	84.19	98.60	143.99	382	825	825	CONC	0.11	44.0	476.0801	0.8906	0.8234	0.802
Contribution From STREET '18', Pipe 660 - 67						0.76				0.00				0.00				0.00	11.78														
	67	69	0.16	0.68	0.30	6.53			0.00	0.49			0.00	0.00			0.00	0.00	15.63	60.32	81.58	95.53	139.48	434	900	900	CONC	0.11	44.0	600.4123	0.9438	0.7770	0.723
Contribution From STREET '19', Pipe 680 - 69						0.79				0.00				0.00				0.00	11.78														
	69	70	0.20	0.68	0.38	7.70			0.00	0.49			0.00	0.00			0.00	0.00	16.41	58.64	79.27	92.82	135.51	490	900	900	CONC	0.11	63.0	600.4123	0.9438	1.1125	0.817
To STREET '20', Pipe 70 - 72						7.70				0.49				0.00				0.00	17.52														
STREET '10'																																	
Contribution From STREET '9', Pipe 47 - 49						0.34				0.00				0.00				0.00	11.33														
Contribution From STREET '9', Pipe 48 - 49						0.13				0.00				0.00				0.00	10.49														
	49	50	0.01	0.68	0.02	0.49			0.00	0.00			0.00	0.00			0.00	0.00	11.33	72.05	97.65	114.44	167.25	35	600	600	CONC	0.15	12.0	237.8056	0.8411	0.2378	0.149
	50	51	0.72	0.67	1.34	1.83			0.00	0.00			0.00	0.00			0.00	0.00	11.57	71.27	96.58	113.18	165.39	131	750	750	CONC	0.11	127.0	369.2322	0.8358	2.5326	0.354
	51	52	0.42	0.67	0.78	2.61			0.00	0.00			0.00	0.00			0.00	0.00	14.10	63.97	86.58	101.41	148.11	167	750	750	CONC	0.11	74.5	369.2322	0.8358	1.4857	0.453
	52	53	0.39	0.67	0.73	3.34			0.00	0.00			0.00	0.00			0.00	0.00	15.59	60.42	81.71	95.68	139.70	202	750	750	CONC	0.11	66.5	369.2322	0.8358	1.3261	0.547
	53	54	0.14	0.67	0.26	3.60			0.00	0.00			0.00	0.00			0.00	0.00	16.91	57.59	77.85	91.14	133.04	207	750	750	CONC	0.11	14.5	369.2322	0.8358	0.2892	0.562
To STREET '20', Pipe 54 - 70						3.60				0.00				0.00				0.00	17.20														
STREET '17'																																	
Contribution From STREET '20', Pipe 70 - 72						12.35				0.49				0.00				0.00	19.16														
Contribution From STREET '20', Pipe 71 - 72						0.95				0.00				0.00				0.00	11.45														
	72	76	0.10	0.67	0.19	13.48			0.00	0.49			0.00	0.00			0.00	0.00	19.16	53.42	72.14	84.43	123.21	756	1200	1200	CONC	0.11	68.5	1293.0625	1.1433	0.9986	0.584
To STREET '2', Pipe 76 - 81						13.48				0.49				0.00				0.00	20.16														
STREET '8'																																	
	85	86	0.20	0.67	0.37	0.37			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	29	450	450	CONC	0.20	49.0	127.5033	0.8017	1.0187	0.224
	86	87	0.12	0.67	0.22	0.60			0.00	0.00			0.00	0.00			0.00	0.00	11.02	73.10	99.10	116.15	169.75	44	450	450	CONC	0.20	13.0	127.5033	0.8017	0.2703	0.342
	87	88	0.36	0.67	0.67	1.27			0.00	0.00			0.00	0.00			0.00	0.00	11.29	72.19	97.84	114.66	167.58	91	600	600	CONC	0.15	61.5	237.8056	0.8411	1.2187	0.384
	88	89	0.14	0.67	0.26	1.53			0.00	0.00			0.00	0.00			0.00	0.00	12.51	68.35	92.58	108.47	158.48	104	600	600	CONC	0.15	13.5	237.8056	0.8411	0.2675	0.439
	89	90	0.10	0.67	0.19	1.71			0.00	0.00			0.00	0.00			0.00	0.00	12.78	67.57	91.51	107.21	156.63	116	750	750	CONC	0.11	30.5	369.2322	0.8358	0.6082	0.314
To Centerline 1003, Pipe 90 - OGS W2						1.71				0.00				0.00				0.00	13.38														
			0.03	0.68	0.06	0.06			0.00	0.00			0.00	0.00			0.00	0.00															
	80	81	0.03	0.80	0.07	0.12			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	9	300	300	PVC	0.35	24.0	57.2089	0.8093	0.4942	0.166
Contribution From STREET '2', Pipe 76 - 81						13.48				2.76				0.00				0.00	21.04														
Contribution From STREET '2', Pipe 79 - 81						0.20				0.64				0.00				0.00	11.68														
	81	82	0.18	0.67	0.34	14.14			0.00	3.41			0.00	0.00			0.00	0.00	21.04	50.42	68.06	79.63	116.17	945	1200	1200	CONC	0.11	57.5	1293.0625	1.1433	0.8382	0.731
	82	83	0.35	0.67	0.65	14.79			0.00	3.41			0.00	0.00			0.00	0.00	21.87	49.20	66.39	77.67	113.30	954	1200	1200	CONC	0.11	70.0	1293.0625	1.1433	1.0204	0.738
	83	84	0.12	0.67	0.22	15.02			0.00	3.41			0.00	0.00			0.00	0.00	22.89	47.80	64.48	75.43	110.01	937	1200	1200	CONC	0.11	12.5	1293.0625	1.1433	0.1822	0.725
	84	90	0.05	0.67	0.09	15.11			0.00	3.41			0.00	0.00			0.00	0.00	23.08	47.56	64.15	75.04	109.44	937	1200	1200	CONC	0.11	14.5	1293.0625	1.1433	0.2114	0.725
To Centerline 1003, Pipe 90 - OGS W2						15.11				3.41				0.00				0.00	23.29														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: M.S.
Checked: W.L./V.W.
Dwg. Reference:

PROJECT: 1226 - Barrhaven Conservancy West
LOCATION: City of Ottawa
File Ref:
Date: 09 Dec 2022
Sheet No. SHEET 1 OF 7

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

LOCATION			AREA (Ha) 2 YEAR				5 YEAR				10 YEAR				100 YEAR				FLOW						SEWER DATA								
Location	From Node	To Node	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	Time of Conc. (min)	Intensity 2 Year (mm/h)	Intensity 5 Year (mm/h)	Intensity 10 Year (mm/h)	Intensity 100 Year (mm/h)	Peak Flow Q (l/s)	DIA. (mm) (actual)	DIA. (mm) (nominal)	TYPE	SLOPE (%)	LENGTH (m)	CAPACITY (l/s)	VELOCITY (m/s)	TIME OF FLOW (min)	RATIO Q/Q full
Centerline 1003																																	
Contribution From STREET '8', Pipe 84 - 90						15.11				3.41				0.00				0.00	23.29														
Contribution From STREET '8', Pipe 89 - 90						1.71				0.00				0.00				0.00	13.38														
	90	OGS W2	0.02	0.67	0.04	16.86			0.00	3.41			0.00	0.00			0.00	0.00	23.29	47.28	63.77	74.60	108.80	1014	1200	1200	CONC	0.11	27.0	1293.0625	1.1433	0.3936	0.785
STREET '21'																																	
Contribution From STREET '9', Pipe 19 - 20						0.56				0.00				0.00				0.00	11.07														
	20	21	0.65	0.67	1.21	1.77			0.00	0.00			0.00	0.00			0.00	0.00	11.07	72.92	98.86	115.86	169.33	129	525	525	CONC	0.20	110.0	192.3297	0.8885	2.0635	0.671
	21	22	0.66	0.67	1.23	3.00			0.00	0.00			0.00	0.00			0.00	0.00	13.13	66.55	90.11	105.56	154.21	200	600	600	CONC	0.15	113.0	237.8056	0.8411	2.2392	0.839
	22	23	0.62	0.67	1.15	4.15			0.00	0.00			0.00	0.00			0.00	0.00	15.37	60.90	82.37	96.46	140.84	253	675	675	CONC	0.15	107.0	325.5584	0.9098	1.9602	0.777
	23	24	0.06	0.67	0.11	4.27			0.00	0.00			0.00	0.00			0.00	0.00	17.33	56.76	76.70	89.79	131.07	242	675	675	CONC	0.15	10.5	325.5584	0.9098	0.1924	0.744
	24	25	0.19	0.67	0.35	4.62			0.00	0.00			0.00	0.00			0.00	0.00	17.53	56.38	76.19	89.19	130.19	260	675	675	CONC	0.15	33.5	325.5584	0.9098	0.6137	0.800
	25	26	0.16	0.67	0.30	4.92			0.00	0.00			0.00	0.00			0.00	0.00	18.14	55.23	74.62	87.34	127.47	272	675	675	CONC	0.15	28.0	325.5584	0.9098	0.5130	0.834
	26	27	0.24	0.67	0.45	5.36			0.00	0.00			0.00	0.00			0.00	0.00	18.65	54.30	73.35	85.86	125.30	291	675	675	CONC	0.20	42.5	375.9224	1.0505	0.6743	0.775
	27	28	0.15	0.67	0.28	5.64			0.00	0.00			0.00	0.00			0.00	0.00	19.33	53.14	71.76	83.99	122.56	300	675	675	CONC	0.20	31.0	375.9224	1.0505	0.4918	0.798
To STREET '25', Pipe 28 - OGS W4						5.64				0.00				0.00				0.00	19.82														
STREET '22'																																	
Contribution From STREET '9', Pipe 1 - 2						0.50				0.00				0.00				0.00	10.55														
Contribution From STREET '9', Pipe 700 - 2						1.12				0.00				0.00				0.00	12.20														
	2	3	0.03	0.67	0.06	1.68			0.00	0.00			0.00	0.00			0.00	0.00	12.20	69.27	93.83	109.94	160.65	116	450	450	CONC	0.25	14.5	142.5531	0.8963	0.2696	0.815
	3	4	0.17	0.67	0.32	1.99			0.00	0.00			0.00	0.00			0.00	0.00	12.47	68.45	92.72	108.63	158.72	136	525	525	CONC	0.20	45.0	192.3297	0.8885	0.8442	0.709
	4	5	0.10	0.67	0.19	2.18			0.00	0.00			0.00	0.00			0.00	0.00	13.32	66.05	89.42	104.75	153.02	144	600	600	CONC	0.15	10.5	237.8056	0.8411	0.2081	0.605
	5	6	0.55	0.67	1.02	3.20			0.00	0.00			0.00	0.00			0.00	0.00	13.53	65.48	88.64	103.84	151.68	210	750	750	CONC	0.11	90.0	369.2322	0.8358	1.7948	0.568
	6	9	0.48	0.67	0.89	4.10			0.00	0.00			0.00	0.00			0.00	0.00	15.32	61.02	82.54	96.65	141.13	250	750	750	CONC	0.11	89.5	369.2322	0.8358	1.7848	0.677
To STREET '24', Pipe 9 - 10						4.10				0.00				0.00				0.00	17.11														
STREET '9'																																	
	1	2	0.27	0.67	0.50	0.50			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	39	375	375	PVC	0.30	28.5	96.0323	0.8695	0.5463	0.402
To STREET '22', Pipe 2 - 3						0.50				0.00				0.00				0.00	10.55														
	47	49	0.18	0.68	0.34	0.34			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	26	450	450	CONC	0.20	64.0	127.5033	0.8017	1.3305	0.205
To STREET '10', Pipe 49 - 50						0.34				0.00				0.00				0.00	11.33														
	47	60	0.25	0.68	0.47	0.47			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	36	450	450	CONC	0.20	59.5	127.5033	0.8017	1.2370	0.285
To STREET '15', Pipe 60 - 61						0.47				0.00				0.00				0.00	11.24														
	48	49	0.07	0.68	0.13	0.13			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	10	300	300	PVC	0.35	24.0	57.2089	0.8093	0.4942	0.178
To STREET '10', Pipe 49 - 50						0.13				0.00				0.00				0.00	10.49														
	59	60	0.10	0.68	0.19	0.19			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	15	450	450	CONC	0.20	28.5	127.5033	0.8017	0.5925	0.114
To STREET '15', Pipe 60 - 61						0.19				0.00				0.00				0.00	10.59														
	7	8	0.43	0.67	0.80	0.80			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	62	375	375	PVC	0.30	74.0	96.0323	0.8695	1.4185	0.641
To STREET '24', Pipe 8 - 9						0.80				0.00				0.00				0.00	11.42														
	7	2	0.60	0.67	1.12	1.12			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	86	450	450	CONC	0.20	106.0	127.5033	0.8017	2.2037	0.673
To STREET '22', Pipe 2 - 3						1.12				0.00				0.00				0.00	12.20														
	18	19	0.21	0.67	0.39	0.39			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	30	300	300	PVC	0.35	42.0	57.2089	0.8093	0.8649	0.525
	19	20	0.09	0.67	0.17	0.56			0.00	0.00			0.00	0.00			0.00	0.00	10.86	73.64	99.84	117.01	171.02	41	300	300	PVC	0.35	10.0	57.2089	0.8093	0.2059	0.719
To STREET '21', Pipe 20 - 21						0.56				0.00				0.00				0.00	11.07														
	59	55	0.05	0.68	0.09	0.09			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	7	300	300	PVC	0.35	13.5	57.2089	0.8093	0.2780	0.127
	55	56	0.02	0.68	0.04	0.13			0.00	0.00			0.00	0.00			0.00	0.00	10.28	75.75	102.75	120.44	176.06	10	375	375	PVC	0.30	13.0	96.0323	0.8695	0.2492	0.104

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: M.S.
Checked: W.L./V.W.
Dwg. Reference:

PROJECT: 1226 - Barrhaven Conservancy West
LOCATION: **City of Ottawa**
File Ref:
Date: 09 Dec 2022
Sheet No. SHEET 2 OF 7

1226_stm__.xlsx

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

LOCATION			AREA (Ha) 2 YEAR				5 YEAR				10 YEAR				100 YEAR				FLOW Time of Conc.	Intensity 2 Year	Intensity 5 Year	Intensity 10 Year	Intensity 100 Year	Peak Flow	SEWER DATA DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF FLOW	RATIO
Location	From Node	To Node	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	(min)	Q/Q full
			0.30	0.80	0.67	0.80			0.00	0.00			0.00	0.00			0.00	0.00															
	56	58			0.00	0.80	0.44	0.40	0.49	0.49			0.00	0.00			0.00	0.00	10.53	74.84	101.49	118.96	173.88	109	450	450	CONC	0.20	102.5	127.5033	0.8017	2.1309	0.859
To STREET '16', Pipe 58 - 62						0.80				0.49				0.00				0.00	12.66														
STREET '24'																																	
Contribution From STREET '9', Pipe 7 - 8						0.80				0.00				0.00				0.00	11.42														
	8	9	0.21	0.67	0.39	1.19			0.00	0.00			0.00	0.00			0.00	0.00	11.42	71.76	97.25	113.97	166.55	86	450	450	CONC	0.20	67.5	127.5033	0.8017	1.4033	0.671
Contribution From STREET '22', Pipe 6 - 9						4.10				0.00				0.00				0.00	17.11														
	9	10	0.24	0.67	0.45	5.74			0.00	0.00			0.00	0.00			0.00	0.00	17.11	57.21	77.32	90.52	132.13	328	825	825	CONC	0.11	62.5	476.0801	0.8906	1.1696	0.689
	10	11	0.72	0.67	1.34	7.08			0.00	0.00			0.00	0.00			0.00	0.00	18.27	54.98	74.28	86.95	126.89	389	825	825	CONC	0.11	122.0	476.0801	0.8906	2.2831	0.817
	11	12	0.48	0.67	0.89	7.97			0.00	0.00			0.00	0.00			0.00	0.00	20.56	51.15	69.05	80.80	117.88	408	825	825	CONC	0.11	80.0	476.0801	0.8906	1.4971	0.857
	12	13	0.10	0.67	0.19	8.16			0.00	0.00			0.00	0.00			0.00	0.00	22.05	48.94	66.04	77.27	112.70	399	825	825	CONC	0.11	13.5	476.0801	0.8906	0.2526	0.839
	13	14	0.15	0.67	0.28	8.44			0.00	0.00			0.00	0.00			0.00	0.00	22.31	48.59	65.56	76.70	111.88	410	900	900	CONC	0.11	32.0	600.4123	0.9438	0.5651	0.683
	14	15	0.07	0.67	0.13	8.57			0.00	0.00			0.00	0.00			0.00	0.00	22.87	47.83	64.52	75.48	110.08	410	900	900	CONC	0.11	17.0	600.4123	0.9438	0.3002	0.682
	15	17	0.02	0.67	0.04	8.61			0.00	0.00			0.00	0.00			0.00	0.00	23.17	47.43	63.98	74.84	109.15	408	900	900	CONC	0.11	10.0	600.4123	0.9438	0.1766	0.680
To STREET '25', Pipe 17 - 28						8.61				0.00				0.00				0.00	23.35														
STREET '26'																																	
	43	44	0.60	0.67	1.12	1.12			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	86	450	450	CONC	0.20	101.0	127.5033	0.8017	2.0997	0.673
	44	45	0.06	0.67	0.11	1.23			0.00	0.00			0.00	0.00			0.00	0.00	12.10	69.58	94.27	110.46	161.40	86	450	450	CONC	0.20	12.5	127.5033	0.8017	0.2599	0.671
To STREET '28', Pipe 45 - 46						1.23				0.00				0.00				0.00	12.36														
STREET '28'																																	
Contribution From STREET '26', Pipe 44 - 45						1.23				0.00				0.00				0.00	12.36														
	45	46			0.00	1.23			0.00	0.00			0.00	0.00			0.00	0.00	12.36	68.79	93.19	109.18	159.53	85	450	450	CONC	0.20	55.0	127.5033	0.8017	1.1434	0.663
To STREET '27', Pipe 46 - OGS W3						1.23				0.00				0.00				0.00	13.50														
STREET '23'																																	
	34	36	0.19	0.67	0.35	0.35			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	27	300	300	PVC	0.35	42.0	57.2089	0.8093	0.8649	0.475
To STREET '25', Pipe 36 - 37						0.35				0.00				0.00				0.00	10.86														
	35	36	0.20	0.67	0.37	0.37			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	29	300	300	PVC	0.35	34.0	57.2089	0.8093	0.7002	0.500
To STREET '25', Pipe 36 - 37						0.37				0.00				0.00				0.00	10.70														
	35	29	0.50	0.67	0.93	0.93			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	72	450	450	CONC	0.20	77.5	127.5033	0.8017	1.6112	0.561
	29	30	0.21	0.67	0.39	1.32			0.00	0.00			0.00	0.00			0.00	0.00	11.61	71.13	96.39	112.95	165.06	94	450	450	CONC	0.20	16.0	127.5033	0.8017	0.3326	0.738
	30	31	0.48	0.67	0.89	2.22			0.00	0.00			0.00	0.00			0.00	0.00	11.94	70.07	94.94	111.24	162.55	155	525	525	CONC	0.20	82.5	192.3297	0.8885	1.5476	0.808
	31	33	0.46	0.67	0.86	3.07			0.00	0.00			0.00	0.00			0.00	0.00	13.49	65.57	88.77	103.98	151.90	202	750	750	CONC	0.11	82.0	369.2322	0.8358	1.6352	0.546
To STREET '1', Pipe 33 - 38						3.07				0.00				0.00				0.00	15.13														
STREET '25'																																	
Contribution From STREET '23', Pipe 34 - 36						0.35				0.00				0.00				0.00	10.86														
Contribution From STREET '23', Pipe 35 - 36						0.37				0.00				0.00				0.00	10.70														
	36	37	0.02	0.67	0.04	0.76			0.00	0.00			0.00	0.00			0.00	0.00	10.86	73.64	99.84	117.01	171.02	56	375	375	PVC	0.30	13.0	96.0323	0.8695	0.2492	0.586
	37	38	0.48	0.67	0.89	1.66			0.00	0.00			0.00	0.00			0.00	0.00	11.11	72.78	98.65	115.62	168.98	121	750	750	CONC	0.11	127.5	369.2322	0.8358	2.5426	0.327
Contribution From STREET '1', Pipe 33 - 38						3.07				2.35				0.00				0.00	17.36														
	38	39	0.23	0.67	0.43	5.16			0.00	2.35			0.00	0.00			0.00	0.00	17.36	56.70	76.63	89.70	130.94	473	900	900	CONC	0.11	62.0	600.4123	0.9438	1.0949	0.787
To STREET '27', Pipe 39 - 40						5.16				2.35				0.00				0.00	18.46														
	16	17	0.23	0.67	0.43	0.43			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	33	300	300	PVC	0.35	43.0	57.2089	0.8093	0.8855	0.575
Contribution From STREET '24', Pipe 15 - 17						8.61				0.00				0.00				0.00	23.35														
	17	28	0.22	0.67	0.41	9.44			0.00	0.00			0.00	0.00			0.00	0.00	23.35	47.20	63.66	74.47	108.61	446	900	900	CONC	0.11	59.0	600.4123	0.9438	1.0419	0.742
Contribution From STREET '21', Pipe 27 - 28						5.64				0.00				0.00				0.00	19.82														
	28	OGS W4	0.08	0.67	0.15	15.24			0.00	0.00			0.00	0.00			0.00	0.00	24.39	45.89	61.89	72.39	105.55	699	1050	1050	CONC	0.11	27.5	905.6791	1.0459	0.4382	0.772

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: M.S.	PROJECT: 1226 - Barrhaven Conservancy West		
Checked: W.L./V.W.	LOCATION: City of Ottawa		
Dwg. Reference:	File Ref:	Date: 09 Dec 2022	Sheet No. SHEET 3 OF 7

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

Ottawa

LOCATION			AREA (Ha) 2 YEAR				5 YEAR				10 YEAR				100 YEAR				FLOW Time of Conc.	Intensity 2 Year	Intensity 5 Year	Intensity 10 Year	Intensity 100 Year	Peak Flow	SEWER DATA DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF FLOW	RATIO
Location	From Node	To Node	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	(min)	Q/Q full
STREET '27'																																	
Contribution From STREET '25', Pipe 38 - 39						5.16				2.35				0.00				0.00	18.46														
	39	40	0.22	0.67	0.41	5.57			0.00	2.35			0.00	0.00			0.00	0.00	18.46	54.65	73.83	86.41	126.11	478	975	975	CONC	0.11	64.5	743.2733	0.9955	1.0798	0.643
	40	41	0.20	0.67	0.37	5.94			0.00	2.35			0.00	0.00			0.00	0.00	19.54	52.79	71.28	83.42	121.73	481	975	975	CONC	0.11	49.5	743.2733	0.9955	0.8287	0.647
	41	42	0.14	0.67	0.26	6.20			0.00	2.35			0.00	0.00			0.00	0.00	20.37	51.45	69.46	81.28	118.58	482	975	975	CONC	0.11	13.0	743.2733	0.9955	0.2176	0.649
	42	46	0.63	0.67	1.17	7.38			0.00	2.35			0.00	0.00			0.00	0.00	20.58	51.11	68.99	80.73	117.79	539	975	975	CONC	0.11	107.5	743.2733	0.9955	1.7997	0.725
Contribution From STREET '28', Pipe 45 - 46						1.23				0.00				0.00				0.00	13.50														
			0.01	0.67	0.02	8.62			0.00	2.35			0.00	0.00			0.00	0.00															
	46	OGS W3	0.11	0.67	0.20	8.83			0.00	2.35			0.00	0.00			0.00	0.00	22.38	48.49	65.42	76.53	111.63	582	975	975	CONC	0.11	7.5	743.2733	0.9955	0.1256	0.783
STREET '7'																																	
Contribution From STREET '1', Pipe 115 - 117						0.00				0.38				0.00				0.00	10.70														
Contribution From STREET '1', Pipe 116 - 117						0.00				0.23				0.00				0.00	10.35														
			0.15	0.80	0.33	0.33			0.00	0.60			0.00	0.00			0.00	0.00															
	117	118	0.21	0.68	0.40	0.73			0.00	0.60			0.00	0.00			0.00	0.00	10.70	74.21	100.62	117.93	172.37	115	750	750	CONC	0.11	78.5	369.2322	0.8358	1.5654	0.312
			0.15	0.80	0.33	1.06			0.00	0.60			0.00	0.00			0.00	0.00															
	118	120	0.22	0.68	0.42	1.48			0.00	0.60			0.00	0.00			0.00	0.00	12.27	69.07	93.56	109.62	160.18	159	750	750	CONC	0.11	84.5	369.2322	0.8358	1.6851	0.430
To STREET '29', Pipe 120 - 121						1.48				0.60				0.00				0.00	13.95														
STREET '6'																																	
Contribution From STREET '1', Pipe 111 - 112						0.00				0.36				0.00				0.00	10.73														
	112	113	0.31	0.80	0.69	0.69			0.00	0.36			0.00	0.00			0.00	0.00	10.73	74.10	100.47	117.76	172.12	87	750	750	CONC	0.11	78.0	369.2322	0.8358	1.5555	0.236
	113	114	0.29	0.80	0.64	1.33			0.00	0.36			0.00	0.00			0.00	0.00	12.29	69.01	93.48	109.53	160.03	126	750	750	CONC	0.11	78.0	369.2322	0.8358	1.5555	0.340
To STREET '2', Pipe 114 - 120						1.33				0.36				0.00				0.00	13.84														
STREET '4'																																	
	78	79	0.09	0.80	0.20	0.20			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	15	300	300	PVC	0.35	33.0	57.2089	0.8093	0.6796	0.269
To STREET '2', Pipe 79 - 81						0.20				0.00				0.00				0.00	10.68														
	78	103	0.43	0.80	0.96	0.96			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	73	750	750	CONC	0.11	107.5	369.2322	0.8358	2.1437	0.199
To STREET '5', Pipe 103 - 106						0.96				0.00				0.00				0.00	12.14														
STREET '3'																																	
			0.23	0.80	0.51	0.51			0.00	0.00			0.00	0.00			0.00	0.00															
	80	102	0.31	0.68	0.59	1.10			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	84	450	450	CONC	0.20	115.5	127.5033	0.8017	2.4012	0.661
To STREET '5', Pipe 102 - 103						1.10				0.00				0.00				0.00	12.40														
STREET '1'																																	
	111	112			0.00	0.00	0.19	0.68	0.36	0.36			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	37	600	600	CONC	0.15	37.0	237.8056	0.8411	0.7332	0.157
To STREET '6', Pipe 112 - 113						0.00				0.36				0.00				0.00	10.73														
	115	117			0.00	0.00	0.20	0.68	0.38	0.38			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	39	600	600	CONC	0.15	35.5	237.8056	0.8411	0.7035	0.166
To STREET '7', Pipe 117 - 118						0.00				0.38				0.00				0.00	10.70														
	116	117			0.00	0.00	0.12	0.68	0.23	0.23			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	24	600	600	CONC	0.15	17.5	237.8056	0.8411	0.3468	0.099
To STREET '7', Pipe 117 - 118						0.00				0.23				0.00				0.00	10.35														
	75	76			0.00	0.00	0.09	0.68	0.17	0.17			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	18	300	300	PVC	0.35	23.5	57.2089	0.8093	0.4839	0.310
To STREET '2', Pipe 76 - 81						0.00				0.17				0.00				0.00	10.48														
	75	101			0.00	0.00	0.77	0.68	1.46	1.46			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	152	525	525	CONC	0.20	115.5	192.3297	0.8885	2.1667	0.789
To STREET '5', Pipe 101 - 102						0.00				1.46				0.00				0.00	12.17														
	73	74			0.00	0.00	0.54	0.67	1.01	1.01			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	105	450	450	CONC	0.25	73.5	142.5531	0.8963	1.3667	0.735
	74	76			0.00	0.00	0.47	0.67	0.88	1.88			0.00	0.00			0.00	0.00	11.37	71.93	97.49	114.25	166.96	183	525	525	CONC	0.25	73.5	215.0311	0.9933	1.2332	0.853
To STREET '2', Pipe 76 - 81						0.00				1.88				0.00				0.00	12.60														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: M.S.
Checked: W.L./V.W.
Dwg. Reference:

PROJECT: 1226 - Barrhaven Conservancy West
LOCATION: **City of Ottawa**
File Ref:
Date: 09 Dec 2022
Sheet No. SHEET 4 OF 7

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

Ottawa

LOCATION			AREA (Ha) 2 YEAR				5 YEAR				10 YEAR				100 YEAR				FLOW						SEWER DATA								
Location	From Node	To Node	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	Time of Conc. (min)	Intensity 2 Year (mm/h)	Intensity 5 Year (mm/h)	Intensity 10 Year (mm/h)	Intensity 100 Year (mm/h)	Peak Flow Q (l/s)	DIA. (mm) (actual)	DIA. (mm) (nominal)	TYPE	SLOPE (%)	LENGTH (m)	CAPACITY (l/s)	VELOCITY (m/s)	TIME OF FLOW (min)	RATIO Q/Q full
	32	33			0.00	0.00	0.30	0.67	0.56	0.56			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	58	300	300	PVC	0.50	32.0	68.3778	0.9673	0.5513	0.851
Contribution From STREET '23', Pipe 31 - 33						3.07				0.00				0.00				0.00	15.13														
					0.00	3.07	0.52	0.67	0.97	1.53			0.00	0.00			0.00	0.00															
	33	38			0.00	3.07	0.74	0.40	0.82	2.35			0.00	0.00			0.00	0.00	15.13	61.47	83.15	97.37	142.19	384	825	825	CONC	0.11	119.5	476.0801	0.8906	2.2363	0.807
To STREET '25', Pipe 38 - 39						3.07				2.35				0.00				0.00	17.36														
STREET '31'																																	
	91	93	0.52	0.67	0.97	0.97			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	74	375	375	PVC	0.30	70.0	96.0323	0.8695	1.3418	0.775
To STREET '16', Pipe 93 - 94						0.97				0.00				0.00				0.00	11.34														
STREET '16'																																	
	92	93	0.05	0.67	0.09	0.09			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	7	300	300	PVC	1.00	28.0	96.7008	1.3680	0.3411	0.074
Contribution From STREET '31', Pipe 91 - 93						0.97				0.00				0.00				0.00	11.34														
	93	94	0.04	0.67	0.07	1.14			0.00	0.00			0.00	0.00			0.00	0.00	11.34	72.01	97.60	114.38	167.16	82	450	450	CONC	0.20	30.5	127.5033	0.8017	0.6341	0.642
To STREET '13', Pipe 94 - 95						1.14				0.00				0.00				0.00	11.98														
			0.11	0.80	0.24	0.24			0.00	0.00			0.00	0.00			0.00	0.00															
	57	58	0.16	0.68	0.30	0.55			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	42	600	600	CONC	0.15	53.0	237.8056	0.8411	1.0503	0.177
Contribution From STREET '9', Pipe 56 - 58						0.80				0.49				0.00				0.00	12.66														
	58	62	0.14	0.80	0.31	1.66			0.00	0.49			0.00	0.00			0.00	0.00	12.66	67.91	91.98	107.76	157.43	158	600	600	CONC	0.15	49.5	237.8056	0.8411	0.9809	0.663
Contribution From STREET '15', Pipe 61 - 62						1.79				0.00				0.00				0.00	13.93														
	62	65	0.11	0.80	0.24	3.70			0.00	0.49			0.00	0.00			0.00	0.00	13.93	64.42	87.19	102.12	149.16	281	750	750	CONC	0.11	44.0	369.2322	0.8358	0.8774	0.760
To STREET '11', Pipe 65 - 67						3.70				0.49				0.00				0.00	14.81														
STREET '13'																																	
Contribution From STREET '16', Pipe 93 - 94						1.14				0.00				0.00				0.00	11.98														
	94	95	0.53	0.68	1.00	2.14			0.00	0.00			0.00	0.00			0.00	0.00	11.98	69.97	94.80	111.08	162.31	150	525	525	CONC	0.20	75.5	192.3297	0.8885	1.4163	0.778
	95	96	0.41	0.68	0.78	2.91			0.00	0.00			0.00	0.00			0.00	0.00	13.39	65.84	89.14	104.42	152.53	192	600	600	CONC	0.15	66.0	237.8056	0.8411	1.3079	0.807
To STREET '20', Pipe 96 - 100						2.91				0.00				0.00				0.00	14.70														
STREET '19'																																	
			0.12	0.80	0.27	0.27			0.00	0.00			0.00	0.00			0.00	0.00															
	68	98	0.16	0.68	0.30	0.57			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	44	450	450	CONC	0.20	60.5	127.5033	0.8017	1.2578	0.343
To STREET '12', Pipe 98 - 99						0.57				0.00				0.00				0.00	11.26														
			0.17	0.80	0.38	0.38			0.00	0.00			0.00	0.00			0.00	0.00															
	68	69	0.22	0.68	0.42	0.79			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	61	450	450	CONC	0.20	85.5	127.5033	0.8017	1.7775	0.478
To STREET '11', Pipe 69 - 70						0.79				0.00				0.00				0.00	11.78														
STREET '18'																																	
	66	97	0.24	0.80	0.53	0.53			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	41	450	450	CONC	0.20	60.5	127.5033	0.8017	1.2578	0.322
To STREET '12', Pipe 97 - 98						0.53				0.00				0.00				0.00	11.26														
	66	67	0.34	0.80	0.76	0.76			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	58	450	450	CONC	0.20	85.5	127.5033	0.8017	1.7775	0.455
To STREET '11', Pipe 67 - 69						0.76				0.00				0.00				0.00	11.78														
STREET '12'																																	
	57	97	0.17	0.68	0.32	0.32			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	25	600	600	CONC	0.15	44.5	237.8056	0.8411	0.8818	0.104
Contribution From STREET '18', Pipe 66 - 97						0.53				0.00				0.00				0.00	11.26														
	97	98	0.18	0.68	0.34	1.20			0.00	0.00			0.00	0.00			0.00	0.00	11.26	72.29	97.99	114.83	167.82	86	600	600	CONC	0.15	44.0	237.8056	0.8411	0.8719	0.363
Contribution From STREET '19', Pipe 68 - 98						0.57				0.00				0.00				0.00	11.26														
	98	99	0.23	0.68	0.43	2.20			0.00	0.00			0.00	0.00			0.00	0.00	12.13	69.49	94.15	110.31	161.18	153	600	600	CONC	0.15	62.5	237.8056	0.8411	1.2385	0.643
To STREET '20', Pipe 99 - 100						2.20				0.00				0.00				0.00	13.37														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: M.S.	PROJECT: 1226 - Barrhaven Conservancy West	
Checked: W.L./V.W.	LOCATION: **City of Ottawa**	
Dwg. Reference:	File Ref:	Date: 09 Dec 2022 / Sheet No. SHEET 5 OF 7

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

Ottawa

LOCATION			AREA (Ha) 2 YEAR				5 YEAR				10 YEAR				100 YEAR				FLOW						SEWER DATA								
Location	From Node	To Node	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	Time of Conc. (min)	Intensity 2 Year (mm/h)	Intensity 5 Year (mm/h)	Intensity 10 Year (mm/h)	Intensity 100 Year (mm/h)	Peak Flow Q (l/s)	DIA. (mm) (actual)	DIA. (mm) (nominal)	TYPE	SLOPE (%)	LENGTH (m)	CAPACITY (l/s)	VELOCITY (m/s)	TIME OF FLOW (min)	RATIO Q/Q full
STREET '20'																																	
	71	72	0.50	0.68	0.95	0.95			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	73	750	750	CONC	0.11	72.5	369.2322	0.8358	1.4458	0.197
To STREET '17', Pipe 72 - 76						0.95				0.00				0.00				0.00	11.45														
Contribution From STREET '12', Pipe 98 - 99						2.20				0.00				0.00				0.00	13.37														
	99	100	0.21	0.68	0.40	2.60			0.00	0.00			0.00	0.00			0.00	0.00	13.37	65.91	89.23	104.52	152.69	171	750	750	CONC	0.11	56.5	369.2322	0.8358	1.1267	0.463
To Centerline 1001, Pipe 100 - 101						2.60				0.00				0.00				0.00	14.49														
Contribution From STREET '13', Pipe 95 - 96						2.91				0.00				0.00				0.00	14.70														
	96	100	0.16	0.68	0.30	3.22			0.00	0.00			0.00	0.00			0.00	0.00	14.70	62.48	84.54	99.01	144.59	201	750	750	CONC	0.11	16.5	369.2322	0.8358	0.3290	0.544
To Centerline 1001, Pipe 100 - 101						3.22				0.00				0.00				0.00	15.03														
Contribution From STREET '10', Pipe 53 - 54						3.60				0.00				0.00				0.00	17.20														
	54	70	0.19	0.67	0.35	3.96			0.00	0.00			0.00	0.00			0.00	0.00	17.20	57.02	77.06	90.21	131.68	226	750	750	CONC	0.11	48.0	369.2322	0.8358	0.9572	0.611
Contribution From STREET '11', Pipe 69 - 70						7.70				0.49				0.00				0.00	17.52														
			0.18	0.68	0.34	12.00			0.00	0.49			0.00	0.00			0.00	0.00															
	70	72	0.19	0.67	0.35	12.35			0.00	0.49			0.00	0.00			0.00	0.00	18.16	55.19	74.57	87.28	127.39	718	1050	1050	CONC	0.11	63.0	905.6791	1.0459	1.0039	0.793
To STREET '17', Pipe 72 - 76						12.35				0.49				0.00				0.00	19.16														
Centerline 1001																																	
Contribution From STREET '20', Pipe 96 - 100						3.22				0.00				0.00				0.00	15.03														
Contribution From STREET '20', Pipe 99 - 100						2.60				0.00				0.00				0.00	14.49														
	100	101	0.05	0.67	0.09	5.91			0.00	0.00			0.00	0.00			0.00	0.00	15.03	61.70	83.46	97.74	142.73	364	825	825	CONC	0.11	67.5	476.0801	0.8906	1.2632	0.765
To STREET '5', Pipe 101 - 102						5.91				0.00				0.00				0.00	16.29														
STREET '5'																																	
Contribution From Centerline 1001, Pipe 100 - 101						5.91				0.00				0.00				0.00	16.29														
Contribution From STREET '1', Pipe 750 - 101						0.00				1.46				0.00				0.00	12.17														
	101	102	0.16	0.80	0.36	6.26			0.00	1.46			0.00	0.00			0.00	0.00	16.29	58.88	79.60	93.20	136.07	485	900	900	CONC	0.11	60.0	600.4123	0.9438	1.0596	0.807
Contribution From STREET '3', Pipe 800 - 102						1.10				0.00				0.00				0.00	12.40														
	102	103	0.14	0.80	0.31	7.67			0.00	1.46			0.00	0.00			0.00	0.00	17.35	56.72	76.66	89.74	130.99	547	975	975	CONC	0.11	49.0	743.2733	0.9955	0.8203	0.735
Contribution From STREET '4', Pipe 780 - 103						0.96				0.00				0.00				0.00	12.14														
	103	106	0.11	0.80	0.24	8.87			0.00	1.46			0.00	0.00			0.00	0.00	18.17	55.17	74.54	87.25	127.33	598	975	975	CONC	0.11	47.5	743.2733	0.9955	0.7952	0.804
To STREET '2', Pipe 106 - 108						8.87				1.46				0.00				0.00	18.97														
STREET '2'																																	
	107	108			0.00	0.00	0.03	0.67	0.06	0.06			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	6	600	600	CONC	0.15	13.0	237.8056	0.8411	0.2576	0.024
To STREET '29', Pipe 108 - 109						0.00				0.06				0.00				0.00	10.26														
	119	120			0.00	0.00	0.12	0.67	0.22	0.22			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	23	600	600	CONC	0.15	14.5	237.8056	0.8411	0.2873	0.098
To STREET '29', Pipe 120 - 121						0.00				0.22				0.00				0.00	10.29														
	77	79			0.00	0.00	0.16	0.68	0.30	0.30			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	32	300	300	PVC	0.35	36.0	57.2089	0.8093	0.7413	0.551
Contribution From STREET '4', Pipe 78 - 79						0.20				0.00				0.00				0.00	10.68														
	79	81			0.00	0.20	0.18	0.68	0.34	0.64			0.00	0.00			0.00	0.00	10.74	74.07	100.43	117.71	172.05	79	375	375	PVC	0.30	49.0	96.0323	0.8695	0.9392	0.827
To STREET '8', Pipe 81 - 82						0.20				0.64				0.00				0.00	11.68														
Contribution From STREET '6', Pipe 113 - 114						1.33				0.36				0.00				0.00	13.84														
	114	120			0.00	1.33	0.09	0.67	0.17	0.53			0.00	0.00			0.00	0.00	13.84	64.64	87.49	102.48	149.68	132	750	750	CONC	0.11	44.5	369.2322	0.8358	0.8874	0.358
To STREET '29', Pipe 120 - 121						1.33				0.53				0.00				0.00	14.73														
	77	104			0.00	0.00	0.10	0.68	0.19	0.19			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	20	300	300	PVC	0.40	13.0	61.1589	0.8652	0.2504	0.322
	104	105			0.00	0.00	0.24	0.80	0.53	0.72			0.00	0.00			0.00	0.00	10.25	75.86	102.89	120.61	176.30	74	375	375	PVC	0.50	67.0	123.9771	1.1225	0.9948	0.600
	105	106			0.00	0.00	0.23	0.80	0.51	1.23			0.00	0.00			0.00	0.00	11.25	72.33	98.05	114.90	167.92	121	750	750	CONC	0.11	67.0	369.2322	0.8358	1.3361	0.328
Contribution From STREET '5', Pipe 103 - 106						8.87				1.46				0.00				0.00	18.97														
	106	108			0.00	8.87	0.05	0.67	0.09	2.78			0.00	0.00			0.00	0.00	18.97	53.75	72.60	84.97	124.00	679	1050	1050	CONC	0.11	25.0	905.6791	1.0459	0.3984	0.750
To STREET '29', Pipe 108 - 109						8.87				2.78				0.00				0.00	19.37														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: M.S.
Checked: W.L./V.W.
Dwg. Reference:

PROJECT: 1226 - Barrhaven Conservancy West
LOCATION: City of Ottawa
File Ref:
Date: 09 Dec 2022
Sheet No. SHEET 6 OF 7

1226_stm__.xlsx

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

Ottawa

LOCATION			AREA (Ha)																FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min)	Q/Q full
Contribution From STREET '17', Pipe 72 - 76						13.48				0.49				0.00				0.00	20.16														
Contribution From STREET '1', Pipe 74 - 76						0.00				1.88				0.00				0.00	12.60														
Contribution From STREET '1', Pipe 75 - 76						0.00				0.17				0.00				0.00	10.48														
	76	81			0.00	13.48	0.12	0.67	0.22	2.76			0.00	0.00			0.00	0.00	20.16	51.77	69.90	81.80	119.34	891	1200	1200	CONC	0.11	60.0	1293.0625	1.1433	0.8746	0.689
To STREET '8', Pipe 81 - 82						13.48				2.76				0.00				0.00	21.04														
STREET '29'																																	
Contribution From STREET '2', Pipe 106 - 108						8.87				2.78				0.00				0.00	19.37														
Contribution From STREET '2', Pipe 107 - 108						0.00				0.06				0.00				0.00	10.26														
			0.16	0.67	0.30	9.17			0.00	2.84			0.00	0.00			0.00	0.00															
	108	109			0.00	9.17	0.44	0.40	0.49	3.33			0.00	0.00			0.00	0.00	19.37	53.07	71.67	83.88	122.40	725	1050	1050	CONC	0.11	50.5	905.6791	1.0459	0.8047	0.801
	109	110	0.01	0.67	0.02	9.19			0.00	3.33			0.00	0.00			0.00	0.00	20.17	51.76	69.88	81.77	119.31	708	1050	1050	CONC	0.11	12.0	905.6791	1.0459	0.1912	0.782
	110	121	0.08	0.67	0.15	9.34			0.00	3.33			0.00	0.00			0.00	0.00	20.36	51.46	69.47	81.29	118.60	712	1050	1050	CONC	0.11	59.0	905.6791	1.0459	0.9401	0.786
Contribution From STREET '2', Pipe 114 - 120						1.33				0.53				0.00				0.00	14.73														
Contribution From STREET '7', Pipe 118 - 120						1.48				0.60				0.00				0.00	13.95														
Contribution From STREET '2', Pipe 119 - 120						0.00				0.22				0.00				0.00	10.29														
	120	121	0.28	0.67	0.52	3.34			0.00	1.36			0.00	0.00			0.00	0.00	14.73	62.41	84.43	98.88	144.41	323	825	825	CONC	0.11	73.5	476.0801	0.8906	1.3755	0.678
	121	OGS W1	0.03	0.67	0.06	12.73			0.00	4.68			0.00	0.00			0.00	0.00	21.30	50.03	67.52	79.00	115.24	953	1200	1200	CONC	0.11	5.5	1293.0625	1.1433	0.0802	0.737

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: M.S.	PROJECT: 1226 - Barrhaven Conservancy West
Checked: W.L./V.W.	LOCATION: City of Ottawa
Dwg. Reference:	File Ref: / Date: 09 Dec 2022 / Sheet No. SHEET 7 OF 7

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION
BASED ON THE RATIONAL RAINFALL METHOD
BASED ON A FINE PARTICLE SIZE DISTRIBUTION

Project Name:	Conservancy West	**Engineer:**	**DSEL**
Location:	Ottawa, ON	**Contact:**	K. Murphy
OGS #:	W1	**Report Date:**	7-Dec-22

Area	8.92	ha	**Rainfall Station #**	215	
Weighted C	0.70		**Particle Size Distribution**	FINE	
CDS Model	5640	(OFFLINE)	**CDS Treatment Capacity**	255	l/s

Rainfall Intensity[1] (mm/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (l/s)	Treated Flowrate (l/s)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
1.0	10.6%	19.8%	17.4	17.4	6.8	96.9	10.3
1.5	9.9%	29.7%	26.0	26.0	10.2	95.9	9.5
2.0	8.4%	38.1%	34.7	34.7	13.6	95.0	8.0
2.5	7.7%	45.8%	43.4	43.4	17.0	94.0	7.2
3.0	5.9%	51.7%	52.1	52.1	20.4	93.0	5.5
3.5	4.4%	56.1%	60.8	60.8	23.8	92.0	4.0
4.0	4.7%	60.7%	69.4	69.4	27.2	91.0	4.2
4.5	3.3%	64.0%	78.1	78.1	30.6	90.1	3.0
5.0	3.0%	67.1%	86.8	86.8	34.1	89.1	2.7
6.0	5.4%	72.4%	104.1	104.1	40.9	87.1	4.7
7.0	4.4%	76.8%	121.5	121.5	47.7	85.2	3.7
8.0	3.5%	80.3%	138.9	138.9	54.5	83.2	2.9
9.0	2.8%	83.2%	156.2	156.2	61.3	81.3	2.3
10.0	2.2%	85.3%	173.6	173.6	68.1	79.3	1.7
15.0	7.0%	92.3%	260.4	254.9	100.0	68.7	4.8
20.0	4.5%	96.9%	347.2	254.9	100.0	51.5	2.3
25.0	1.4%	98.3%	434.0	254.9	100.0	41.2	0.6
30.0	0.7%	99.0%	520.7	254.9	100.0	34.4	0.2
35.0	0.5%	99.5%	607.5	254.9	100.0	29.4	0.1
40.0	0.5%	100.0%	694.3	254.9	100.0	25.8	0.1
							87.0
						Removal Efficiency Adjustment[2] =	6.5%
						Predicted Net Annual Load Removal Efficiency =	**80.5%**
						Predicted Annual Rainfall Treated =	**97.1%**

1 - Based on 42 years of hourly rainfall data from Canadian Station 6105976, Ottawa ON
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.
3 - CDS Efficiency based on testing conducted at the University of Central Florida
4 - CDS design flowrate and scaling based on standard manufacturer model & product specifications

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION
BASED ON THE RATIONAL RAINFALL METHOD
BASED ON A FINE PARTICLE SIZE DISTRIBUTION

CONTECH ENGINEERED SOLUTIONS

CDS TECHNOLOGIES

Project Name: Conservancy West **Engineer:** **DSEL**
Location: Ottawa, ON **Contact:** K. Murphy
OGS #: W2 **Report Date:** 7-Dec-22

Area 10.75 ha **Rainfall Station #** 215
Weighted C 0.69 **Particle Size Distribution** FINE
CDS Model 5653 (OFFLINE) **CDS Treatment Capacity** 396 l/s

Rainfall Intensity[1] (mm/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (l/s)	Treated Flowrate (l/s)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
1.0	10.6%	19.8%	20.6	20.6	5.2	97.4	10.3
1.5	9.9%	29.7%	30.9	30.9	7.8	96.6	9.6
2.0	8.4%	38.1%	41.2	41.2	10.4	95.9	8.0
2.5	7.7%	45.8%	51.6	51.6	13.0	95.1	7.3
3.0	5.9%	51.7%	61.9	61.9	15.6	94.4	5.6
3.5	4.4%	56.1%	72.2	72.2	18.2	93.6	4.1
4.0	4.7%	60.7%	82.5	82.5	20.8	92.9	4.3
4.5	3.3%	64.0%	92.8	92.8	23.4	92.1	3.1
5.0	3.0%	67.1%	103.1	103.1	26.0	91.4	2.8
6.0	5.4%	72.4%	123.7	123.7	31.2	89.9	4.8
7.0	4.4%	76.8%	144.3	144.3	36.4	88.4	3.8
8.0	3.5%	80.3%	165.0	165.0	41.6	86.9	3.1
9.0	2.8%	83.2%	185.6	185.6	46.8	85.4	2.4
10.0	2.2%	85.3%	206.2	206.2	52.0	83.9	1.8
15.0	7.0%	92.3%	309.3	309.3	78.0	76.5	5.3
20.0	4.5%	96.9%	412.4	396.5	100.0	67.5	3.1
25.0	1.4%	98.3%	515.5	396.5	100.0	54.0	0.8
30.0	0.7%	99.0%	618.6	396.5	100.0	45.0	0.3
35.0	0.5%	99.5%	721.7	396.5	100.0	38.6	0.2
40.0	0.5%	100.0%	824.8	396.5	100.0	33.7	0.2
							90.0

Removal Efficiency Adjustment[2] = 6.5%

Predicted Net Annual Load Removal Efficiency = 83.5%

Predicted Annual Rainfall Treated = 98.8%

1 - Based on 42 years of hourly rainfall data from Canadian Station 6105976, Ottawa ON
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.
3 - CDS Efficiency based on testing conducted at the University of Central Florida
4 - CDS design flowrate and scaling based on standard manufacturer model & product specifications

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION
BASED ON THE RATIONAL RAINFALL METHOD
BASED ON A FINE PARTICLE SIZE DISTRIBUTION

Project Name: Conservancy West — **Engineer:** DSEL
Location: Ottawa, ON — **Contact:** K. Murphy
OGS #: W3 — **Report Date:** 7-Dec-22

Area 6.30 ha — **Rainfall Station #** 215
Weighted C 0.64 — **Particle Size Distribution** FINE
CDS Model 4040 (OFFLINE) — **CDS Treatment Capacity** 170 l/s

Rainfall Intensity[1] (mm/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (l/s)	Treated Flowrate (l/s)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
1.0	10.6%	19.8%	11.2	11.2	6.6	97.0	10.3
1.5	9.9%	29.7%	16.8	16.8	9.9	96.0	9.5
2.0	8.4%	38.1%	22.4	22.4	13.2	95.1	8.0
2.5	7.7%	45.8%	28.0	28.0	16.5	94.1	7.2
3.0	5.9%	51.7%	33.6	33.6	19.8	93.2	5.5
3.5	4.4%	56.1%	39.2	39.2	23.1	92.2	4.0
4.0	4.7%	60.7%	44.8	44.8	26.4	91.3	4.3
4.5	3.3%	64.0%	50.4	50.4	29.7	90.3	3.0
5.0	3.0%	67.1%	56.0	56.0	33.0	89.4	2.7
6.0	5.4%	72.4%	67.3	67.3	39.6	87.5	4.7
7.0	4.4%	76.8%	78.5	78.5	46.2	85.6	3.7
8.0	3.5%	80.3%	89.7	89.7	52.8	83.7	3.0
9.0	2.8%	83.2%	100.9	100.9	59.4	81.8	2.3
10.0	2.2%	85.3%	112.1	112.1	66.0	79.9	1.7
15.0	7.0%	92.3%	168.1	168.1	98.9	70.5	4.9
20.0	4.5%	96.9%	224.2	169.9	100.0	53.2	2.4
25.0	1.4%	98.3%	280.2	169.9	100.0	42.6	0.6
30.0	0.7%	99.0%	336.3	169.9	100.0	35.5	0.2
35.0	0.5%	99.5%	392.3	169.9	100.0	30.4	0.1
40.0	0.5%	100.0%	448.4	169.9	100.0	26.6	0.1
							87.4

Removal Efficiency Adjustment[2] = 6.5%
Predicted Net Annual Load Removal Efficiency = 80.9%
Predicted Annual Rainfall Treated = 97.4%

1 - Based on 42 years of hourly rainfall data from Canadian Station 6105976, Ottawa ON
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.
3 - CDS Efficiency based on testing conducted at the University of Central Florida
4 - CDS design flowrate and scaling based on standard manufacturer model & product specifications

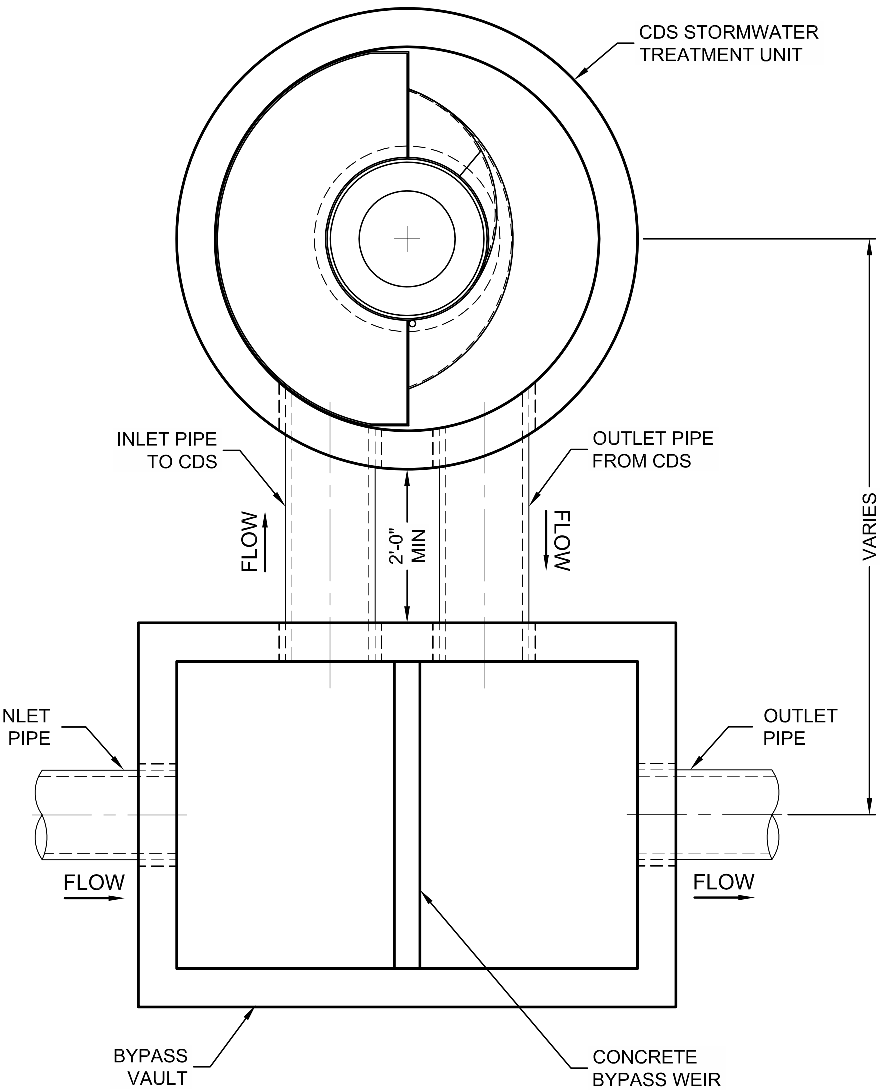
CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION
BASED ON THE RATIONAL RAINFALL METHOD
BASED ON A FINE PARTICLE SIZE DISTRIBUTION

Project Name: Conservancy West
Engineer: DSEL
Location: Ottawa, ON
Contact: K. Murphy
OGS #: W4
Report Date: 7-Dec-22

Area 8.18 ha
Weighted C 0.67
CDS Model 5640 (OFFLINE)
Rainfall Station # 215
Particle Size Distribution FINE
CDS Treatment Capacity 255 l/s

Rainfall Intensity[1] (mm/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (l/s)	Treated Flowrate (l/s)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
1.0	10.6%	19.8%	15.2	15.2	6.0	97.1	10.3
1.5	9.9%	29.7%	22.9	22.9	9.0	96.3	9.5
2.0	8.4%	38.1%	30.5	30.5	12.0	95.4	8.0
2.5	7.7%	45.8%	38.1	38.1	14.9	94.6	7.3
3.0	5.9%	51.7%	45.7	45.7	17.9	93.7	5.6
3.5	4.4%	56.1%	53.3	53.3	20.9	92.9	4.0
4.0	4.7%	60.7%	60.9	60.9	23.9	92.0	4.3
4.5	3.3%	64.0%	68.6	68.6	26.9	91.1	3.0
5.0	3.0%	67.1%	76.2	76.2	29.9	90.3	2.7
6.0	5.4%	72.4%	91.4	91.4	35.9	88.6	4.8
7.0	4.4%	76.8%	106.7	106.7	41.8	86.9	3.8
8.0	3.5%	80.3%	121.9	121.9	47.8	85.1	3.0
9.0	2.8%	83.2%	137.1	137.1	53.8	83.4	2.4
10.0	2.2%	85.3%	152.4	152.4	59.8	81.7	1.8
15.0	7.0%	92.3%	228.5	228.5	89.7	73.2	5.1
20.0	4.5%	96.9%	304.7	254.9	100.0	58.7	2.7
25.0	1.4%	98.3%	380.9	254.9	100.0	47.0	0.7
30.0	0.7%	99.0%	457.1	254.9	100.0	39.1	0.3
35.0	0.5%	99.5%	533.3	254.9	100.0	33.5	0.2
40.0	0.5%	100.0%	609.4	254.9	100.0	29.4	0.2
							88.5
						Removal Efficiency Adjustment[2] =	6.5%
						Predicted Net Annual Load Removal Efficiency =	**82.0%**
						Predicted Annual Rainfall Treated =	**97.9%**

1 - Based on 42 years of hourly rainfall data from Canadian Station 6105976, Ottawa ON
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.
3 - CDS Efficiency based on testing conducted at the University of Central Florida
4 - CDS design flowrate and scaling based on standard manufacturer model & product specifications



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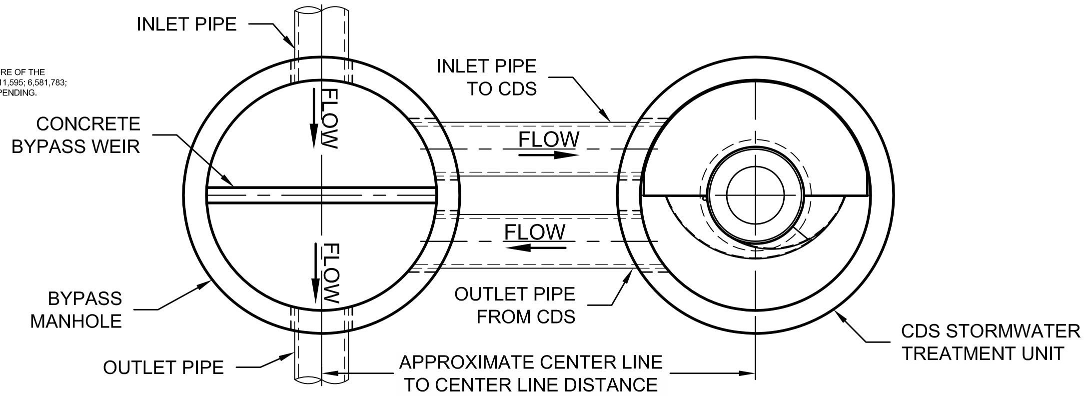
CDS STORMWATER TREATMENT SYSTEM TYPICAL OFFLINE LAYOUT WITH BYPASS VAULT STRUCTURE

DATE:03/12/13	SCALE: NONE	PROJECT No.: N/A	SEQ. No.: N/A	DRAWN: N/A	CHECKED: N/A

I:\STORMWATER\COMMOPS\22 CDS\40 STANDARD DRAWINGS\OFFLINE LAYOUTS DWG\OFFLINE CDS-C LAYOUT BYPASS VAULT STRUCTURE.DWG 3/12/2013 3:35 PM

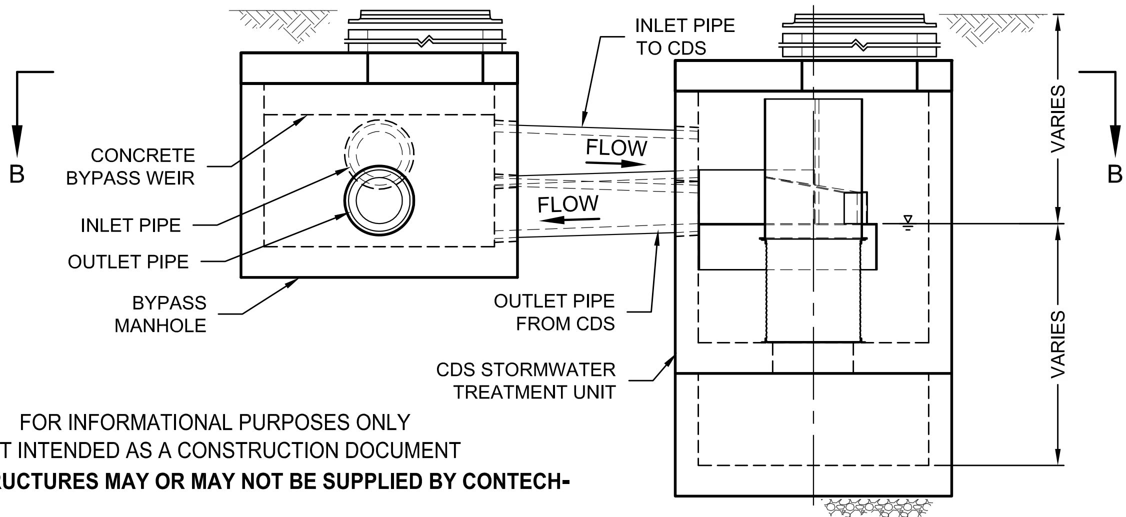
CDS®

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,788,848; 6,641,720; 6,511,595; 6,581,783; RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING.



PLAN VIEW B-B

N.T.S.



FOR INFORMATIONAL PURPOSES ONLY
NOT INTENDED AS A CONSTRUCTION DOCUMENT

- BYPASS STRUCTURES MAY OR MAY NOT BE SUPPLIED BY CONTECH-

ELEVATION VIEW

N.T.S.

NOTE: BYPASS AND JUNCTION MANHOLE DIAMETERS ARE ASSUMED BASED ON THE TREATMENT CAPACITY OF THE CDS SYSTEM. THESE DIAMETERS MAY CHANGE DEPENDING ON SPECIFIC SITE CONDITIONS. CONTACT YOUR CONTECH ENGINEERED SOLUTIONS DESIGN ENGINEER.

CDS CONCENTRIC OFFLINE SPECIFICATIONS

CDS MODEL	CDS INSIDE DIAMETER (ft/mm)	RECOMMENDED PIPE SIZE (in/mm)	TYPICAL BYPASS MANHOLE INSIDE DIAMETER (ft/mm)	APPROXIMATE CENTER LINE TO CENTER LINE DISTANCE (ft/mm)
2015-4-C	4/1219	10/250	4/1219	9/2743
2015-5-C	5/1524	10/250	5/1524	9.5/2896
2020-5-C	5/1524	12/300	5/1524	10/3048
2025-5-C	5/1524	12/300	5/1524	10/3048
3020-6-C	6/1829	15/375	6/1829	11/3353
3025-6-C	6/1829	15/375	6/1829	11/3353
3030-6-C	6/1829	18/450	6/1829	11/3353
3035-6-C	6/1829	18/450	6/1829	11/3353
4030-8-C	8/2438	24/600	8/2438	13/3962
4040-8-C	8/2438	24/600	8/2438	13/3962
4045-8-C	8/2438	24/600	8/2438	13/3962
5640-10-C	10/3048	30/750	10/3048	15/4572
5653-10-C	10/3048	30/750	10/3048	15/4572
5668-10-C	10/3048	30/750	10/3048	15/4572
5678-10-C	10/3048	30/750	10/3048	15/4572

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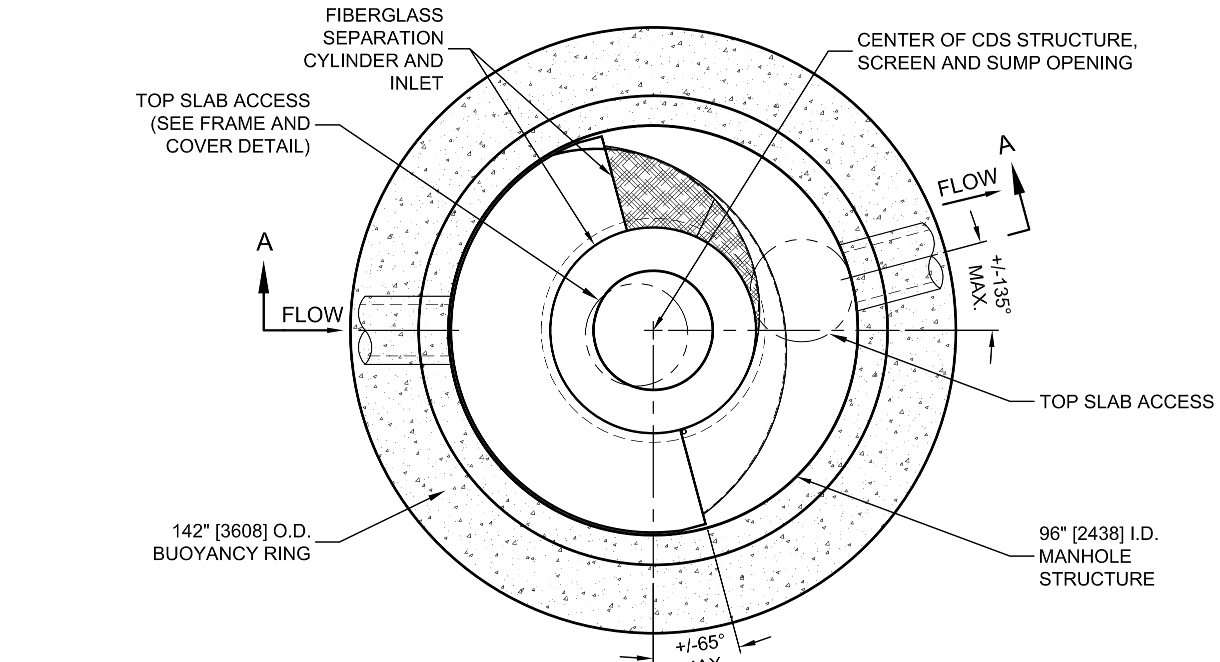
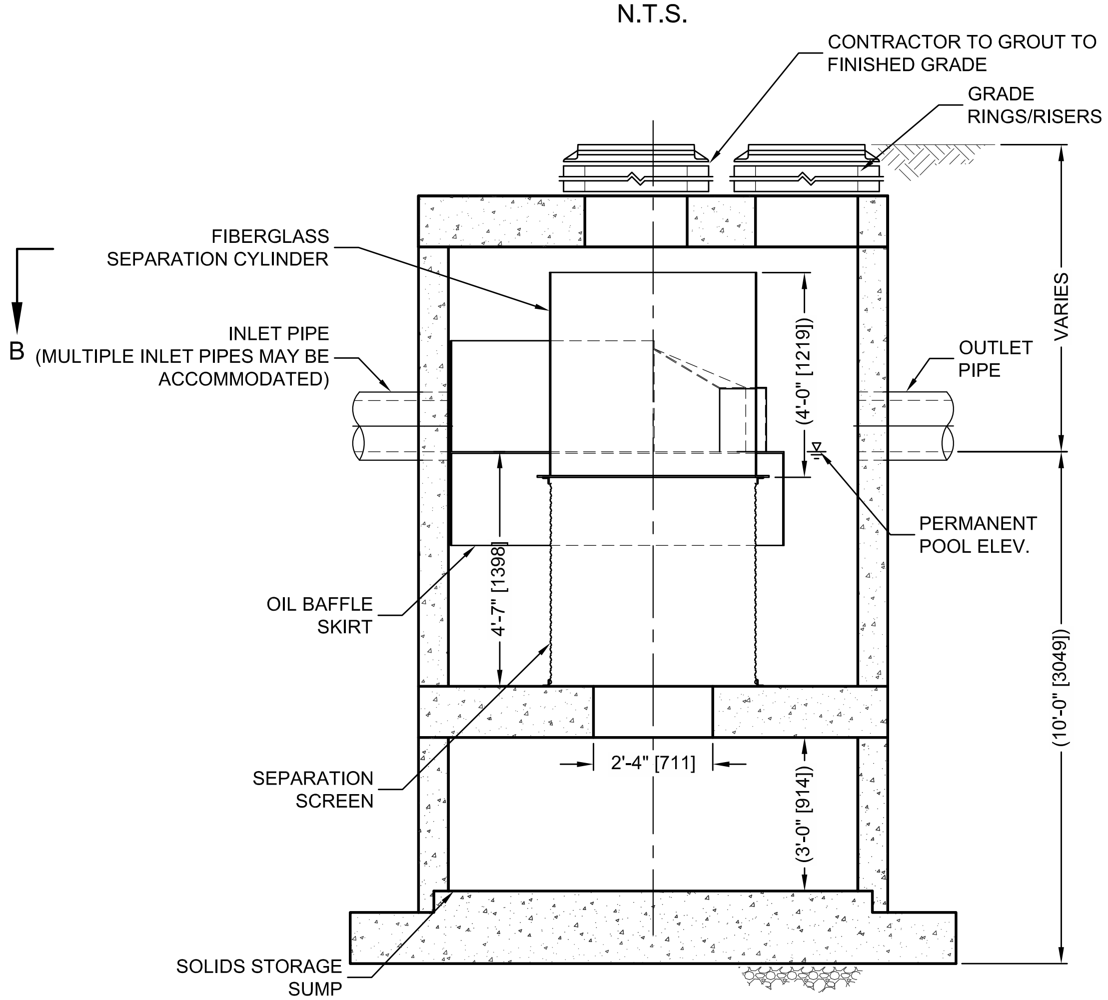
877-907-8676 207-885-9830 207-885-9825 FAX

CDS STORMWATER TREATMENT SYSTEM TYPICAL OFFLINE LAYOUT WITH BYPASS MANHOLE STRUCTURE

DATE:3/4/14	SCALE: NONE	FILE NAME: TYPTBLCDSBPR-M	DRAWN: DWB	CHECKED:



PLAN VIEW B-B
N.T.S.

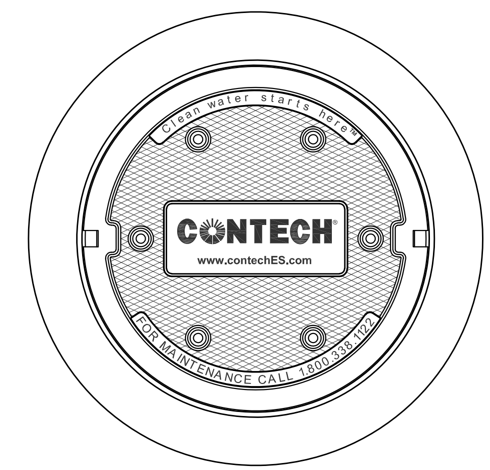


ELEVATION A-A
N.T.S.

CDS PMSU4040-8-C DESIGN NOTES

THE STANDARD CDS PMSU4040-8-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)			*
PEAK FLOW RATE (CFS OR L/s)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			

* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

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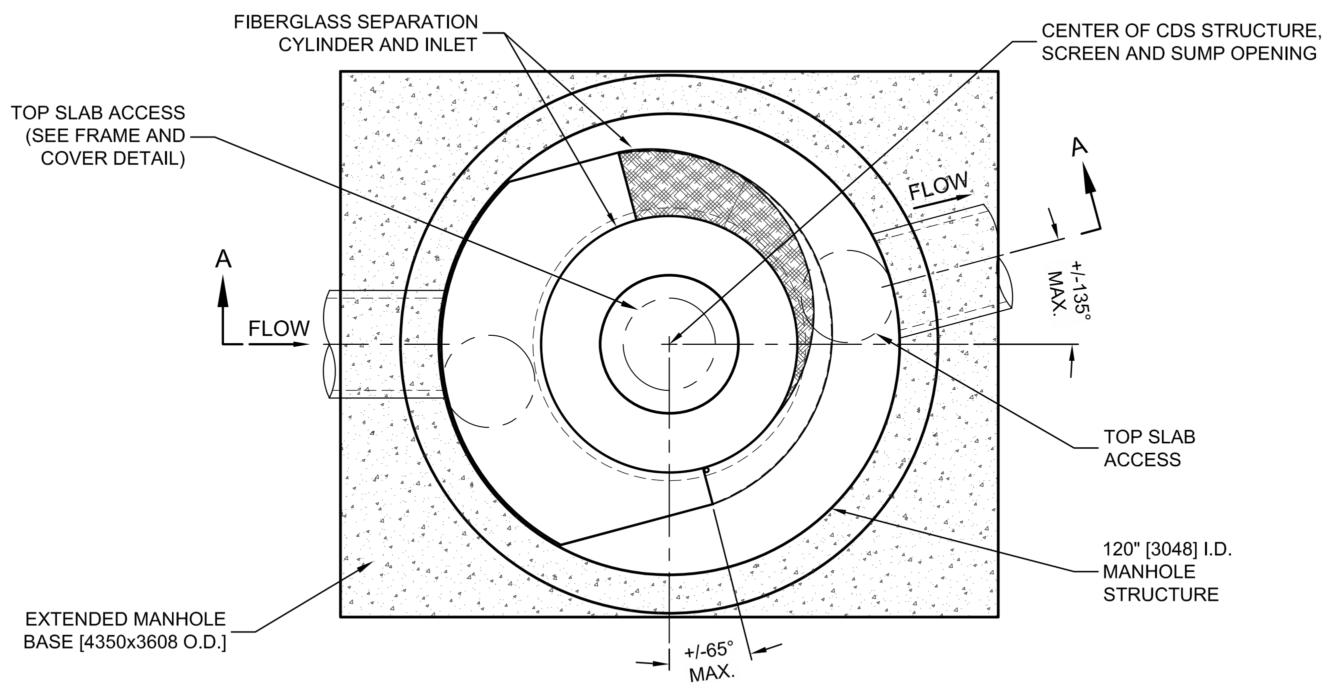
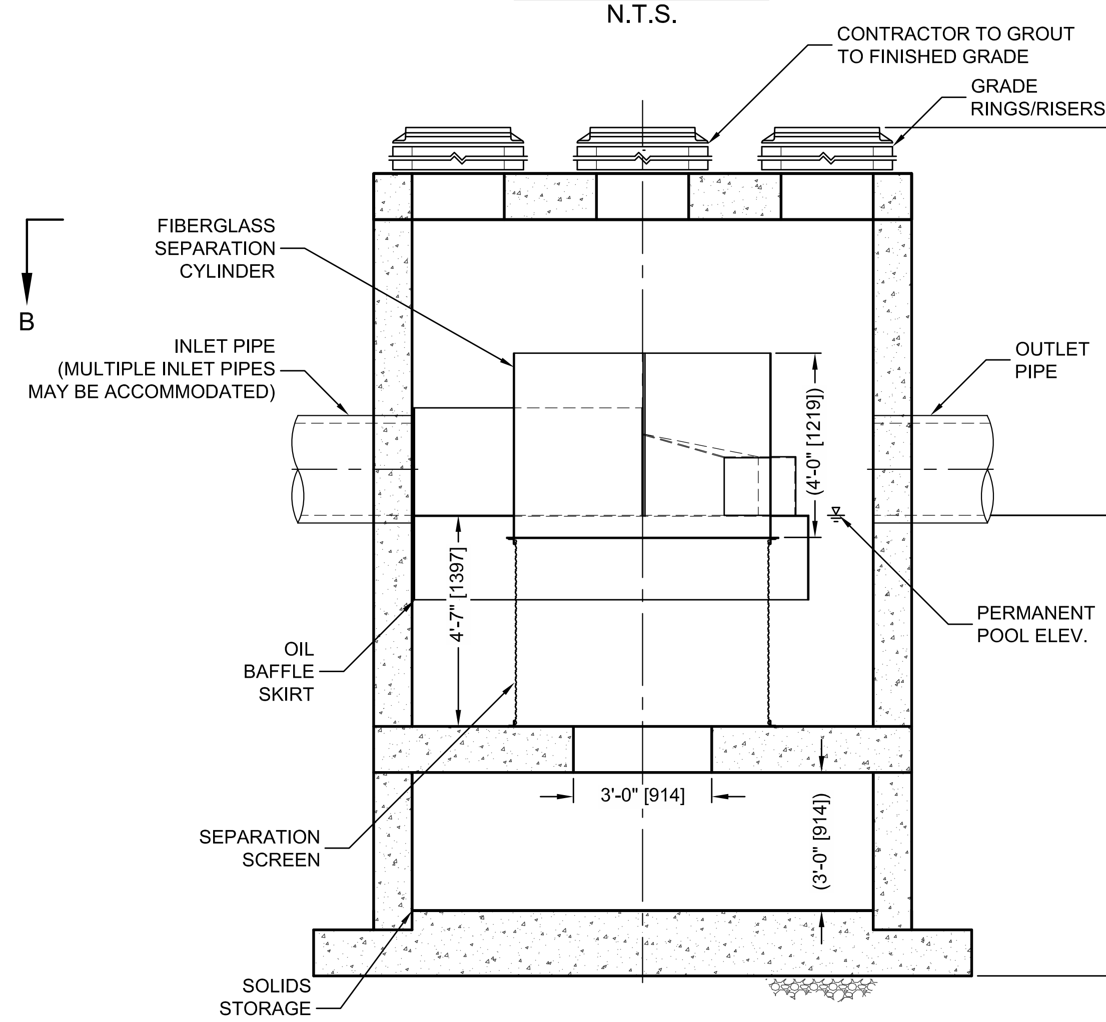
800-338-1122 513-645-7000 513-645-7993 FAX

CDS PMSU4040-8-C
INLINE CDS
STANDARD DETAIL

Z:\4.0 MANUFACTURERS\CONTECH PRODUCT INFO\TREATMENT\CDS\DRAWINGS ECHELON\IN LINE-PDF\2022 - PMSU UPDATED CONTECH DRAWINGS - HUDA8\CDS4040-8-C-DTL.DWG 6/2/2022 12:44 PM



PLAN VIEW B-B
N.T.S.

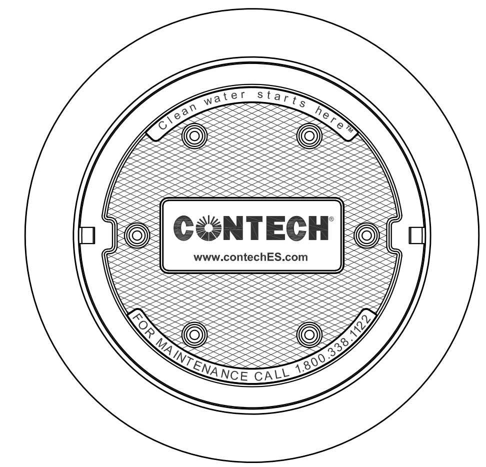


ELEVATION A-A
N.T.S.

CDS PMSU5640-10-C DESIGN NOTES

THE STANDARD CDS PMSU5640-10-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
CUSTOMIZABLE SUMP DEPTH AVAILABLE
ANTI-FLOTATION DESIGN AVAILABLE UPON REQUEST



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (CFS OR L/s)	*
PEAK FLOW RATE (CFS OR L/s)	*
RETURN PERIOD OF PEAK FLOW (YRS)	*
SCREEN APERTURE (2400 OR 4700)	*

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

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CDS PMSU5640-10-C
INLINE CDS
STANDARD DETAIL

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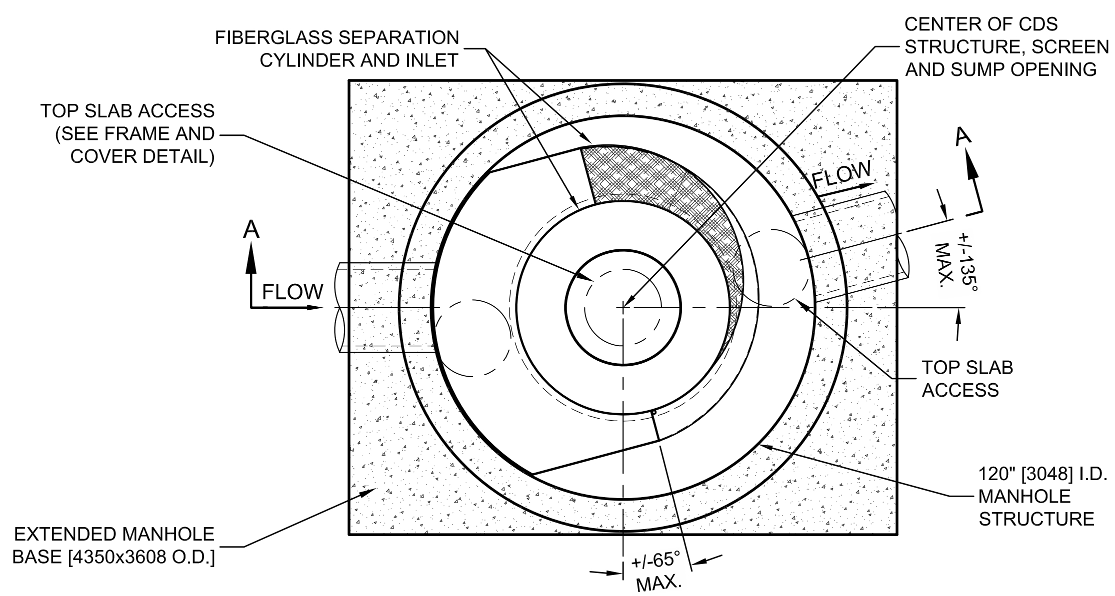
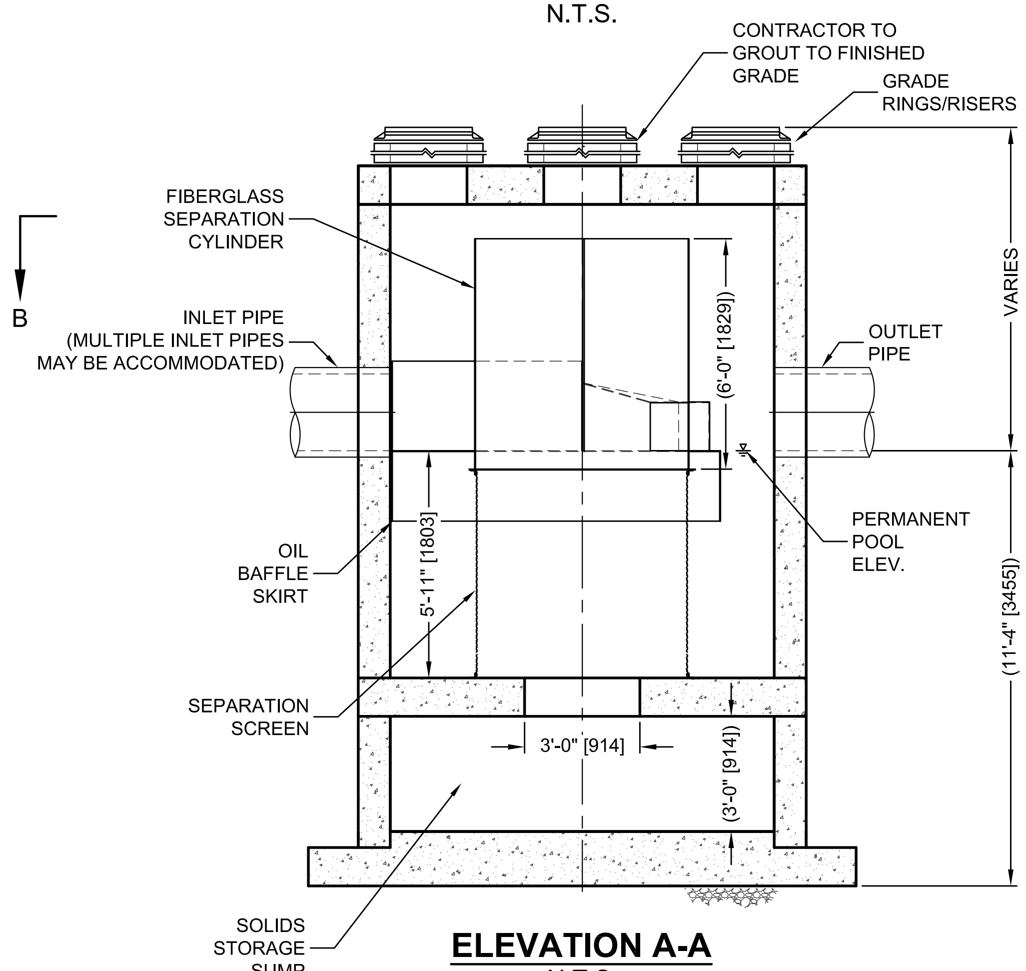


PLAN VIEW B-B

N.T.S.



ELEVATION A-A

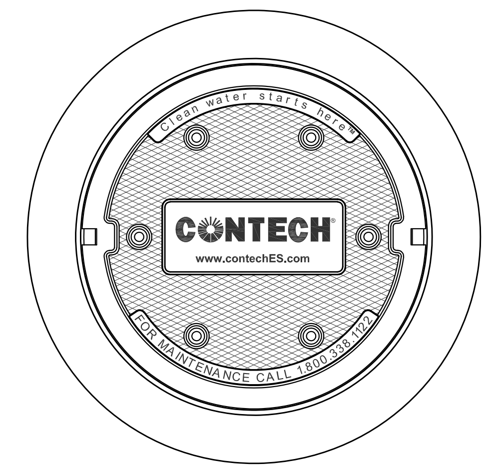
N.T.S.

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,788,848; 6,641,720; 6,511,595; 6,581,783; RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING.

CDS PMSU5653-10-C DESIGN NOTES

THE STANDARD CDS PMSU5653-10-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
CUSTOMIZABLE SUMP DEPTH AVAILABLE
ANTI-FLOTATION DESIGN AVAILABLE UPON REQUEST



FRAME AND COVER

(DIAMETER VARIES)

N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)			*
PEAK FLOW RATE (CFS OR L/s)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			

* PER ENGINEER OF RECORD

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechEScom
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET HS20 (AASHTO M 306) AND BE CAST WITH THE CONTECH LOGO.
6. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

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CDS PMSU5653-10-C
INLINE CDS
STANDARD DETAIL

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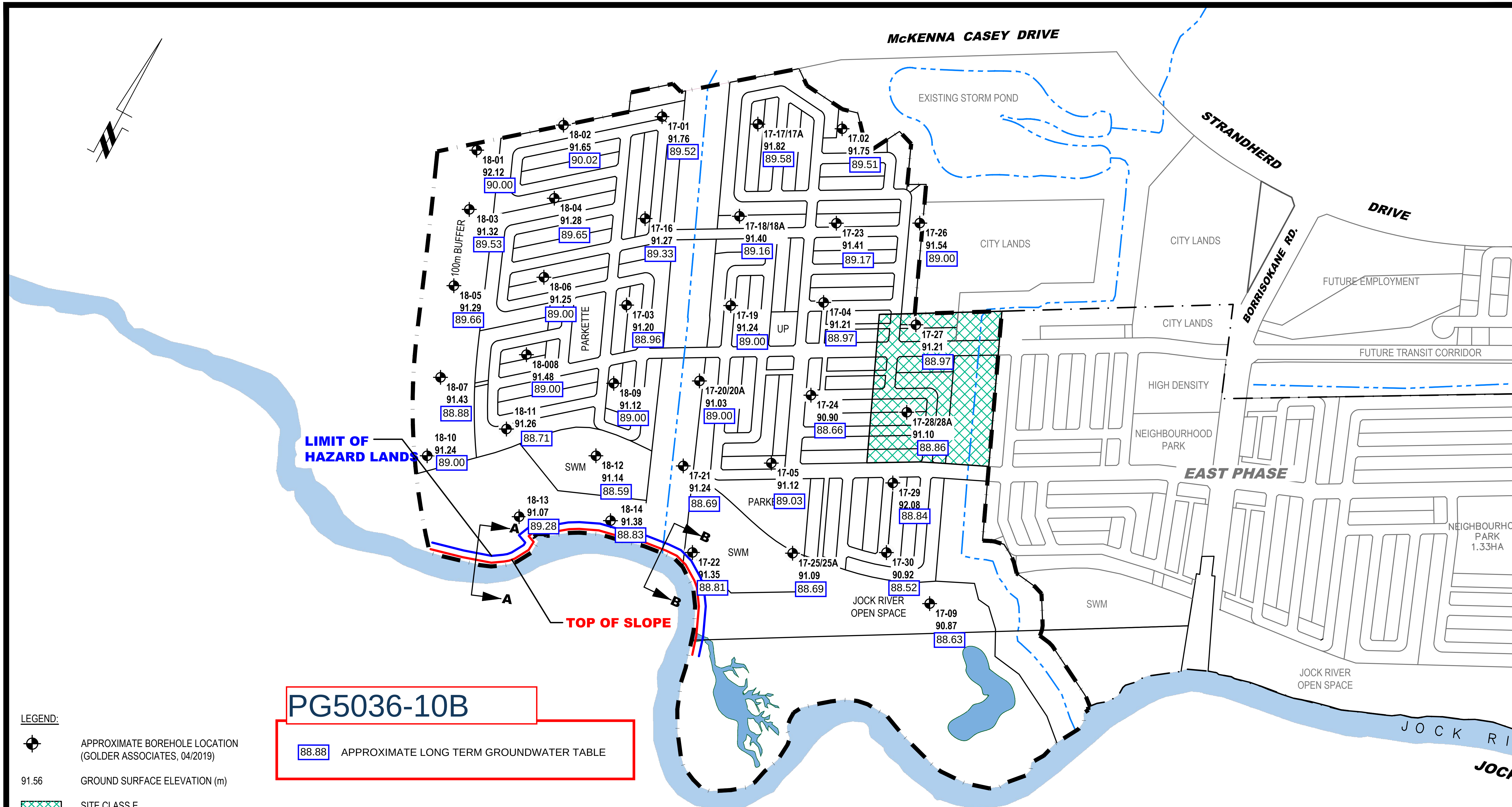

PG5036-10B

88.88 APPROXIMATE LONG TERM GROUNDWATER TABLE

LEGEND:

APPROXIMATE BOREHOLE LOCATION (GOLDER ASSOCIATES, 04/2019)

91.56 GROUND SURFACE ELEVATION (m)

SITE CLASS E (REMAINDER OF THE SITE IS CLASS D)

BOREHOLE LOCATIONS WERE SURVEYED BY OTHERS AND ARE REFERENCED TO A GEODETIC DATUM.

patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

CAIVAN COMMUNITIES
GEOTECHNICAL INVESTIGATION
PROP. RESIDENTIAL DEVELOPMENT - CONSERVANCY LANDS WEST
OTTAWA, ONTARIO

Title:
TEST HOLE LOCATION PLAN

Scale:	1:6000	Date:	09/2019
Drawn by:	MPG	Report No.:	PG5036-2
Checked by:	SD		PG5036-4
Approved by:	SD	Revision No.:	

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J.F. Sabourin and Associates Inc.
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December 13, 2022 Project Number: 1474

David Schaeffer Engineering Ltd
120 Iber Road, Unit 103
Ottawa, Ontario
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Attention: **Kevin Murphy, P.Eng**

Subject: **Barrhaven Conservancy West – Preliminary HGL Analysis**

Introduction

Barrhaven Conservancy West Development is located in Barrhaven, Ontario, north of the Jock River, east of Highway 416 and west of the Foster Drain. The proposed development is approximately **34.15 ha** that will primarily comprise of single and townhouse residential lots. The following outlines the preliminary hydraulic grade line (HGL) assessment for the site, to ensure that the proposed minor system within the development is adequately sized to safely convey flows to the Jock River under various conditions. As such the following memo outlines the approach taken in assessing the development's HGL and summarises the findings of this analysis.

Analysis Approach

Preliminary hydraulic grade line calculations for the proposed Barrhaven Conservancy West development were completed using PCSWMM modelling software. Pipe data, storm sewer layout and Rational Method flows in the storm sewer are as provided by DSEL. The Rational Method flows were calculated based on the 2-, 5- or 10-year level of service requirements, and the 100-year flows in the hydraulic grade line calculations were estimated as 14% greater than the Rational Method flows, to account for the additional flows captured by catchbasin grates, lead pipes and/or inlet control devices under the higher surface water depths of the 100-year storm.

The 14% increase in flows for the 100-year event is based on the assumption that the head on a lead pipe/ICD will increase by 35 cm (maximum allowable major system ponding depth) during the 100-Year event. Taking a typical 250 mm lead pipe and assuming that the head on the pipe is just below the top of the grate (assumed at 1.38 m) results in a peak flow of 209 L/s, then assuming that the head is increased by 35 cm during the 100-Year (head of 1.730 m) the flow through the lead pipe would increase to 234.5 L/s, which results in a 12% increase in peak flows. It is important to note that a 12% increase is observed when the same calculations are applied to the various lead pipe and ICD sizes. An additional 2% is added as a safety factor to allow some flexibility in the design, as it is likely that not all lead pipes will have a head of 1.38 m (just below the top of MH) for the level of service specified.

The proposed storm sewer infrastructure data was extracted from DSEL's detailed drawings and incorporated into a PCSWMM model, and flows derived by DSEL's rational method calculations were then applied to each Maintenance Hole (MH) in the model as steady flows (using the baseflow option). Exit losses were applied to all storm sewer pipes in the system based on the angle of the downstream connection.

As with all other works completed for the Barrhaven Conservancy development phases, the preliminary HGL analysis was completed under two conditions:

- 100-year rainfall event on the development and a 5-year spring water level on the Jock River
- Level of service (2/5/10-year) rainfall event on the development and a 100-year spring water level on the Jock River

Note that the water level along the Jock River through the length of this development varies, and as such the nearest corresponding upstream water surface elevation calculated by RVCA's HEC-RAS floodplain mapping model of the Jock River was applied at each of the respective storm sewer outlets. Also, note that assuming a 5-year spring water level on the Jock River for a 100-year rainfall event on the development is an inherently conservative assumption, as the critical storm for the proposed development is a summer (intense rainfall) event while the critical storm for the Jock River is a spring (snowmelt + rainfall) event. A preliminary Single Station Flood Frequency analysis was completed by JFSA using only summer flows (from May 15 to October 31) based on historical flow data recorded at the Moodie Drive Water Survey Canada gauge. This analysis found that the 100-year summer flow on the Jock River is around **99 m³/s**, while the 5-year spring flow is around **123 m³/s**, therefore the downstream boundary condition applied is conservative.

Within the proposed development, Oil and Grit Separators (OGS) units in conjunction with LID measures will be implemented to ensure the site meets quality control requirements. Preliminary OGS units and associated by-pass weir elevations have also been included in the model, based on similar drainage areas and imperviousness seen in Barrhaven Conservancy Phase 2. **Table 1** below outlines the assumed OGS sizes and configurations based on similar drainage areas and imperviousness found in Barrhaven Conservancy Phase 2. Note that the trunk sewers for this development phase have been numbered 1-4 progressing from east to west (Foster Creek to Highway 416).

Trunk System	Area (ha)	Runoff Coefficient	CDS Model	CDS Inlet/Outlet Pipe (mm)	Weir Height (mm)
Trunk 1	8.92	0.7	PMSU 5640 -10	750	660
Trunk 2	10.75	0.69	PMSU 5640 -10	750	660
Trunk 3	6.3	0.64	PMSU 4045 -8	675	650
Trunk 4	8.18	0.67	PMSU 5640 -10	750	660
Total	**34.15**	**0.68**			

Results

The maximum HGL obtained at each MH has been extracted from the level of service (2/5/10-year) event / 100-year Jock River water level scenario and the 100-year event / 5-year Jock River water level scenario, with the results from this analysis provided in **Tables 1 & 2**, respectively. As all proposed units within this development will have sump pumps, the simulated HGL was compared against the top of MH elevation to ensure that all storm sewers infrastructure is sufficiently sized and is not surcharging to the major system during the assessed events.

From this analysis, it was found that the critical scenario for HGL within the development was the level of service development event and 100-year water level on the Jock River scenario. Based on this scenario, no MHs will have an HGL elevation above the top of MH (minimum freeboard of **0.50 m** at **MH-109**), with an average freeboard of **0.75 m** from the top of MH throughout the proposed development.

For the 100-year event and 5-year water level on the Jock River, no MHs will have HGL elevations above the top of MH (minimum freeboard of **1.14 m** at **MH-101**), with an average freeboard of **1.37 m** from the top of MH throughout the proposed development. As such it can be concluded that the proposed storm sewer infrastructure is sufficiently sized, to safely convey minor system flows from the development under various extreme conditions.

Conclusion

A preliminary HGL analysis for the West Phase of the Barrhaven Conservancy Development was completed using PCSWMM based on storm sewer and flow details provided by DSEL. From this analysis, it was found that the proposed storm sewer infrastructure is sufficiently sized to convey all minor system flows to the Jock River and will not result in any MHs surcharging to the street under extreme events such as 100-year rainfall events on the development and a 5-year spring water level on the Jock River and a level of service (2/5/10 Year) rainfall event on the development and a 100-year spring water level on the Jock River, with the former being the more critical scenario for the HGL within the development.

Yours truly,
J.F Sabourin and Associates Inc.

Jonathon Burnett, P.Eng
Water Resources Engineer

cc: J.F Sabourin, M.Eng, P.Eng
Director of Water Resources Projects

Figures
Figure 1: PCSWMM Model Overview

Tables
Table 1: HGL Result Tables - Level of service (2/5/10-year) BCDC Development & 100-Year Jock River
Table 2: HGL Result Tables - 100-Year BCDC Development & 5-Year Jock River

Attachments
Attachment A: DSEL Rational Method Calculations

Modelling Files – Provided Electronically
PCSWMM BCDC-West_HGL_v02.0-5YrDev-100YrJock.inp
BCDC-West_HGL_v02.0-100YrDev-5YrJock.inp

Legend

- Junctions
- Conduits
- Outfalls
- Development Plan

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DSEL
david schaeffer engineering ltd

SCALE : 1:3,500

0 50 100 150 200 m

PROJECT :
Barrhaven Conservancy Development
Phase 3

TITLE :
Figure 1:
Preliminary HGL Analysis
Model Overview

PROJECT	1474 -17
DRAWN:	JB
DATE:	DEC 2022

Table 1: BCDC West - Preliminary HGL Analysis
Level of Service (2/5/10 Year) BCDC Development & 100-Year Jock River

MH-ID	Invert Elevation	Top of MH (m)	Max HGL (m)	Freeboard (m)
MH-10	90.38	93.43	92.41	1.02
MH-100	90.28	93.06	92.39	0.67
MH-101	90.13	92.89	92.35	0.54
MH-102	89.99	92.85	92.30	0.55
MH-103	89.92	92.79	92.28	0.52
MH-106	89.79	92.71	92.20	0.51
MH-108	89.70	92.67	92.14	0.53
MH-109	89.61	92.59	92.09	0.50
MH-11	90.22	93.24	92.31	0.93
MH-110	89.57	92.58	92.07	0.51
MH-12	90.11	93.13	92.25	0.88
MH-121	89.36	92.52	92.00	0.52
MH-13	90.02	93.11	92.23	0.89
MH-14	89.95	93.06	92.21	0.85
MH-15	89.90	93.04	92.20	0.84
MH-17	89.82	93.02	92.17	0.86
MH-28	89.60	92.93	92.13	0.80
MH-36	91.13	93.39	92.30	1.09
MH-37	90.37	93.37	92.30	1.07
MH-38	90.08	93.18	92.28	0.90
MH-39	89.94	93.08	92.21	0.88
MH-40	89.84	93.02	92.17	0.85
MH-41	89.76	92.94	92.14	0.80
MH-42	89.72	92.93	92.13	0.80
MH-46	89.58	92.77	92.06	0.71
MH-570	90.83	93.64	92.48	1.16
MH-60	91.24	93.73	92.76	0.97
MH-61	91.08	93.72	92.77	0.95
MH-62	90.88	93.53	92.75	0.78
MH-65	90.76	93.47	92.69	0.78
MH-67	90.63	93.40	92.66	0.74
MH-69	90.51	93.33	92.63	0.70
MH-70	90.29	93.24	92.55	0.69
MH-72	90.07	93.15	92.46	0.69
MH-76	89.97	93.04	92.43	0.61
MH-81	89.84	92.95	92.36	0.59
MH-82	89.72	92.89	92.28	0.61
MH-83	89.61	92.79	92.22	0.57
MH-84	89.57	92.77	92.20	0.57
MH-9	90.47	93.52	92.44	1.08
MH-90	89.49	92.75	92.14	0.61
MH-97	90.75	93.17	92.49	0.68
MH-98	90.66	93.11	92.48	0.63
MH-99	90.42	93.01	92.42	0.59
			Min	0.50
			Max	1.16
			Average	0.75

Note: Analysis assumes 100 year spring water level on the Jock River
Model Name:BCDC-West_HGL_v02.0-5YrDev-100YrJock.inp

Table 2: BCDC West - Preliminary HGL Analysis
100-Year BCDC Development & 5-Year Jock River

MH-ID	Invert Elevation	Top of MH (m)	Max HGL (m)	Freeboard (m)
MH-10	90.38	93.43	91.81	1.62
MH-100	90.28	93.06	91.81	1.25
MH-101	90.13	92.89	91.75	1.14
MH-102	89.99	92.85	91.70	1.15
MH-103	89.92	92.79	91.66	1.14
MH-106	89.79	92.71	91.56	1.15
MH-108	89.70	92.67	91.48	1.19
MH-109	89.61	92.59	91.42	1.17
MH-11	90.22	93.24	91.68	1.56
MH-110	89.57	92.58	91.39	1.19
MH-12	90.11	93.13	91.60	1.54
MH-121	89.36	92.52	91.30	1.22
MH-13	90.02	93.11	91.57	1.55
MH-14	89.95	93.06	91.54	1.52
MH-15	89.90	93.04	91.53	1.51
MH-17	89.82	93.02	91.49	1.54
MH-28	89.60	92.93	91.44	1.49
MH-36	91.13	93.39	91.66	1.73
MH-37	90.37	93.37	91.66	1.71
MH-38	90.08	93.18	91.64	1.54
MH-39	89.94	93.08	91.54	1.55
MH-40	89.84	93.02	91.49	1.53
MH-41	89.76	92.94	91.46	1.48
MH-42	89.72	92.93	91.44	1.49
MH-46	89.58	92.77	91.36	1.41
MH-570	90.83	93.64	91.93	1.71
MH-60	91.24	93.73	92.27	1.46
MH-61	91.08	93.72	92.27	1.46
MH-62	90.88	93.53	92.24	1.29
MH-65	90.76	93.47	92.17	1.31
MH-67	90.63	93.40	92.13	1.27
MH-69	90.51	93.33	92.10	1.23
MH-70	90.29	93.24	91.98	1.26
MH-72	90.07	93.15	91.87	1.28
MH-76	89.97	93.04	91.84	1.20
MH-81	89.84	92.95	91.74	1.21
MH-82	89.72	92.89	91.64	1.25
MH-83	89.61	92.79	91.56	1.23
MH-84	89.57	92.77	91.54	1.23
MH-9	90.47	93.52	91.85	1.67
MH-90	89.49	92.75	91.46	1.29
MH-97	90.75	93.17	91.94	1.23
MH-98	90.66	93.11	91.92	1.19
MH-99	90.42	93.01	91.85	1.16
			Min	1.14
			Max	1.73
			Average	1.37

Note: Analysis assumes 5 year spring water level on the Jock River

Model Name:BCDC-West_HGL_v02.0-100YrDev-5YrJock

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Attachment A

DSEL Rational Method Calculations

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

Ottawa

	LOCATION		AREA (Ha)																FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
STREET '14'																																	
			0.14	0.80	0.31	0.31			0.00	0.00			0.00	0.00			0.00	0.00															
	63	64	0.20	0.68	0.38	0.69			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	53	375	375	PVC	0.30	67.0	96.0323	0.8695	1.2843	0.551
			0.14	0.80	0.31	1.00			0.00	0.00			0.00	0.00			0.00	0.00															
	64	65	0.23	0.68	0.43	1.44			0.00	0.00			0.00	0.00			0.00	0.00	11.28	72.20	97.87	114.69	167.61	104	750	750	CONC	0.11	74.5	369.2322	0.8358	1.4857	0.281
To STREET '11', Pipe 65 - 67						1.44				0.00				0.00				0.00	12.77														
STREET '15'																																	
Contribution From STREET '9', Pipe 470 - 60						0.47				0.00				0.00				0.00	11.24														
Contribution From STREET '9', Pipe 59 - 60						0.19				0.00				0.00				0.00	10.59														
	60	61	0.01	0.68	0.02	0.68			0.00	0.00			0.00	0.00			0.00	0.00	11.24	72.36	98.08	114.95	167.99	49	600	600	CONC	0.15	10.5	237.8056	0.8411	0.2081	0.207
	61	62	0.50	0.80	1.11	1.79			0.00	0.00			0.00	0.00			0.00	0.00	11.45	71.67	97.13	113.83	166.35	128	750	750	CONC	0.11	124.5	369.2322	0.8358	2.4827	0.348
To STREET '16', Pipe 62 - 65						1.79				0.00				0.00				0.00	13.93														
STREET '11'																																	
Contribution From STREET '16', Pipe 62 - 65						3.70				0.49				0.00				0.00	14.81														
Contribution From STREET '14', Pipe 64 - 65						1.44				0.00				0.00				0.00	12.77														
	65	67	0.18	0.68	0.34	5.47			0.00	0.49			0.00	0.00			0.00	0.00	14.81	62.23	84.19	98.60	143.99	382	825	825	CONC	0.11	44.0	476.0801	0.8906	0.8234	0.802
Contribution From STREET '18', Pipe 660 - 67						0.76				0.00				0.00				0.00	11.78														
	67	69	0.16	0.68	0.30	6.53			0.00	0.49			0.00	0.00			0.00	0.00	15.63	60.32	81.58	95.53	139.48	434	900	900	CONC	0.11	44.0	600.4123	0.9438	0.7770	0.723
Contribution From STREET '19', Pipe 680 - 69						0.79				0.00				0.00				0.00	11.78														
	69	70	0.20	0.68	0.38	7.70			0.00	0.49			0.00	0.00			0.00	0.00	16.41	58.64	79.27	92.82	135.51	490	900	900	CONC	0.11	63.0	600.4123	0.9438	1.1125	0.817
To STREET '20', Pipe 70 - 72						7.70				0.49				0.00				0.00	17.52														
STREET '10'																																	
Contribution From STREET '9', Pipe 47 - 49						0.34				0.00				0.00				0.00	11.33														
Contribution From STREET '9', Pipe 48 - 49						0.13				0.00				0.00				0.00	10.49														
	49	50	0.01	0.68	0.02	0.49			0.00	0.00			0.00	0.00			0.00	0.00	11.33	72.05	97.65	114.44	167.25	35	600	600	CONC	0.15	12.0	237.8056	0.8411	0.2378	0.149
	50	51	0.72	0.67	1.34	1.83			0.00	0.00			0.00	0.00			0.00	0.00	11.57	71.27	96.58	113.18	165.39	131	750	750	CONC	0.11	127.0	369.2322	0.8358	2.5326	0.354
	51	52	0.42	0.67	0.78	2.61			0.00	0.00			0.00	0.00			0.00	0.00	14.10	63.97	86.58	101.41	148.11	167	750	750	CONC	0.11	74.5	369.2322	0.8358	1.4857	0.453
	52	53	0.39	0.67	0.73	3.34			0.00	0.00			0.00	0.00			0.00	0.00	15.59	60.42	81.71	95.68	139.70	202	750	750	CONC	0.11	66.5	369.2322	0.8358	1.3261	0.547
	53	54	0.14	0.67	0.26	3.60			0.00	0.00			0.00	0.00			0.00	0.00	16.91	57.59	77.85	91.14	133.04	207	750	750	CONC	0.11	14.5	369.2322	0.8358	0.2892	0.562
To STREET '20', Pipe 54 - 70						3.60				0.00				0.00				0.00	17.20														
STREET '17'																																	
Contribution From STREET '20', Pipe 70 - 72						12.35				0.49				0.00				0.00	19.16														
Contribution From STREET '20', Pipe 71 - 72						0.95				0.00				0.00				0.00	11.45														
	72	76	0.10	0.67	0.19	13.48			0.00	0.49			0.00	0.00			0.00	0.00	19.16	53.42	72.14	84.43	123.21	756	1200	1200	CONC	0.11	68.5	1293.0625	1.1433	0.9986	0.584
To STREET '2', Pipe 76 - 81						13.48				0.49				0.00				0.00	20.16														
STREET '8'																																	
	85	86	0.20	0.67	0.37	0.37			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	29	450	450	CONC	0.20	49.0	127.5033	0.8017	1.0187	0.224
	86	87	0.12	0.67	0.22	0.60			0.00	0.00			0.00	0.00			0.00	0.00	11.02	73.10	99.10	116.15	169.75	44	450	450	CONC	0.20	13.0	127.5033	0.8017	0.2703	0.342
	87	88	0.36	0.67	0.67	1.27			0.00	0.00			0.00	0.00			0.00	0.00	11.29	72.19	97.84	114.66	167.58	91	600	600	CONC	0.15	61.5	237.8056	0.8411	1.2187	0.384
	88	89	0.14	0.67	0.26	1.53			0.00	0.00			0.00	0.00			0.00	0.00	12.51	68.35	92.58	108.47	158.48	104	600	600	CONC	0.15	13.5	237.8056	0.8411	0.2675	0.439
	89	90	0.10	0.67	0.19	1.71			0.00	0.00			0.00	0.00			0.00	0.00	12.78	67.57	91.51	107.21	156.63	116	750	750	CONC	0.11	30.5	369.2322	0.8358	0.6082	0.314
To Centerline 1003, Pipe 90 - OGS W3						1.71				0.00				0.00				0.00	13.38														
			0.03	0.68	0.06	0.06			0.00	0.00			0.00	0.00			0.00	0.00															
	80	81	0.03	0.80	0.07	0.12			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	9	300	300	PVC	0.35	24.0	57.2089	0.8093	0.4942	0.166
Contribution From STREET '2', Pipe 76 - 81						13.48				2.76				0.00				0.00	21.04														
Contribution From STREET '2', Pipe 79 - 81						0.20				0.64				0.00				0.00	11.68														
	81	82	0.18	0.67	0.34	14.14			0.00	3.41			0.00	0.00			0.00	0.00	21.04	50.42	68.06	79.63	116.17	945	1200	1200	CONC	0.11	57.5	1293.0625	1.1433	0.8382	0.731
	82	83	0.35	0.67	0.65	14.79			0.00	3.41			0.00	0.00			0.00	0.00	21.87	49.20	66.39	77.67	113.30	954	1200	1200	CONC	0.11	70.0	1293.0625	1.1433	1.0204	0.738
	83	84	0.12	0.67	0.22	15.02			0.00	3.41			0.00	0.00			0.00	0.00	22.89	47.80	64.48	75.43	110.01	937	1200	1200	CONC	0.11	12.5	1293.0625	1.1433	0.1822	0.725
	84	90	0.05	0.67	0.09	15.11			0.00	3.41			0.00	0.00			0.00	0.00	23.08	47.56	64.15	75.04	109.44	937	1200	1200	CONC	0.11	14.5	1293.0625	1.1433	0.2114	0.725
To Centerline 1003, Pipe 90 - OGS W3						15.11				3.41				0.00				0.00	23.29														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

Designed: M.S.	PROJECT: 1226 - Barrhaven Conservancy West			
Checked: W.L./V.W.	LOCATION: City of Ottawa			
Dwg. Reference:	File Ref:	Date: 09 Dec 2022	Sheet No. SHEET 1 OF 7	

1226_stm.xlsx

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

Ottawa

LOCATION			AREA (Ha)																FLOW						SEWER DATA									
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min)	Q/Q full
Centerline 1003																																	
Contribution From STREET '8', Pipe 84 - 90						15.11				3.41				0.00				0.00	23.29														
Contribution From STREET '8', Pipe 89 - 90						1.71				0.00				0.00				0.00	13.38														
	90	OGS W3	0.02	0.67	0.04	16.86			0.00	3.41			0.00	0.00			0.00	0.00	23.29	47.28	63.77	74.60	108.80	1014	1200	1200	CONC	0.11	27.0	1293.0625	1.1433	0.3936	0.785
STREET '21'																																	
Contribution From STREET '9', Pipe 19 - 20						0.56				0.00				0.00				0.00	11.07														
	20	21	0.65	0.67	1.21	1.77			0.00	0.00			0.00	0.00			0.00	0.00	11.07	72.92	98.86	115.86	169.33	129	525	525	CONC	0.20	110.0	192.3297	0.8885	2.0635	0.671
	21	22	0.66	0.67	1.23	3.00			0.00	0.00			0.00	0.00			0.00	0.00	13.13	66.55	90.11	105.56	154.21	200	600	600	CONC	0.15	113.0	237.8056	0.8411	2.2392	0.839
	22	23	0.62	0.67	1.15	4.15			0.00	0.00			0.00	0.00			0.00	0.00	15.37	60.90	82.37	96.46	140.84	253	675	675	CONC	0.15	107.0	325.5584	0.9098	1.9602	0.777
	23	24	0.06	0.67	0.11	4.27			0.00	0.00			0.00	0.00			0.00	0.00	17.33	56.76	76.70	89.79	131.07	242	675	675	CONC	0.15	10.5	325.5584	0.9098	0.1924	0.744
	24	25	0.19	0.67	0.35	4.62			0.00	0.00			0.00	0.00			0.00	0.00	17.53	56.38	76.19	89.19	130.19	260	675	675	CONC	0.15	33.5	325.5584	0.9098	0.6137	0.800
	25	26	0.16	0.67	0.30	4.92			0.00	0.00			0.00	0.00			0.00	0.00	18.14	55.23	74.62	87.34	127.47	272	675	675	CONC	0.15	28.0	325.5584	0.9098	0.5130	0.834
	26	27	0.24	0.67	0.45	5.36			0.00	0.00			0.00	0.00			0.00	0.00	18.65	54.30	73.35	85.86	125.30	291	675	675	CONC	0.20	42.5	375.9224	1.0505	0.6743	0.775
	27	28	0.15	0.67	0.28	5.64			0.00	0.00			0.00	0.00			0.00	0.00	19.33	53.14	71.76	83.99	122.56	300	675	675	CONC	0.20	31.0	375.9224	1.0505	0.4918	0.798
To STREET '25', Pipe 28 - OGS W1						5.64				0.00				0.00				0.00	19.82														
STREET '22'																																	
Contribution From STREET '9', Pipe 1 - 2						0.50				0.00				0.00				0.00	10.55														
Contribution From STREET '9', Pipe 700 - 2						1.12				0.00				0.00				0.00	12.20														
	2	3	0.03	0.67	0.06	1.68			0.00	0.00			0.00	0.00			0.00	0.00	12.20	69.27	93.83	109.94	160.65	116	450	450	CONC	0.25	14.5	142.5531	0.8963	0.2696	0.815
	3	4	0.17	0.67	0.32	1.99			0.00	0.00			0.00	0.00			0.00	0.00	12.47	68.45	92.72	108.63	158.72	136	525	525	CONC	0.20	45.0	192.3297	0.8885	0.8442	0.709
	4	5	0.10	0.67	0.19	2.18			0.00	0.00			0.00	0.00			0.00	0.00	13.32	66.05	89.42	104.75	153.02	144	600	600	CONC	0.15	10.5	237.8056	0.8411	0.2081	0.605
	5	6	0.55	0.67	1.02	3.20			0.00	0.00			0.00	0.00			0.00	0.00	13.53	65.48	88.64	103.84	151.68	210	750	750	CONC	0.11	90.0	369.2322	0.8358	1.7948	0.568
	6	9	0.48	0.67	0.89	4.10			0.00	0.00			0.00	0.00			0.00	0.00	15.32	61.02	82.54	96.65	141.13	250	750	750	CONC	0.11	89.5	369.2322	0.8358	1.7848	0.677
To STREET '24', Pipe 9 - 10						4.10				0.00				0.00				0.00	17.11														
STREET '9'																																	
	1	2	0.27	0.67	0.50	0.50			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	39	375	375	PVC	0.30	28.5	96.0323	0.8695	0.5463	0.402
To STREET '22', Pipe 2 - 3						0.50				0.00				0.00				0.00	10.55														
	47	49	0.18	0.68	0.34	0.34			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	26	450	450	CONC	0.20	64.0	127.5033	0.8017	1.3305	0.205
To STREET '10', Pipe 49 - 50						0.34				0.00				0.00				0.00	11.33														
	47	60	0.25	0.68	0.47	0.47			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	36	450	450	CONC	0.20	59.5	127.5033	0.8017	1.2370	0.285
To STREET '15', Pipe 60 - 61						0.47				0.00				0.00				0.00	11.24														
	48	49	0.07	0.68	0.13	0.13			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	10	300	300	PVC	0.35	24.0	57.2089	0.8093	0.4942	0.178
To STREET '10', Pipe 49 - 50						0.13				0.00				0.00				0.00	10.49														
	59	60	0.10	0.68	0.19	0.19			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	15	450	450	CONC	0.20	28.5	127.5033	0.8017	0.5925	0.114
To STREET '15', Pipe 60 - 61						0.19				0.00				0.00				0.00	10.59														
	7	8	0.43	0.67	0.80	0.80			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	62	375	375	PVC	0.30	74.0	96.0323	0.8695	1.4185	0.641
To STREET '24', Pipe 8 - 9						0.80				0.00				0.00				0.00	11.42														
	7	2	0.60	0.67	1.12	1.12			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	86	450	450	CONC	0.20	106.0	127.5033	0.8017	2.2037	0.673
To STREET '22', Pipe 2 - 3						1.12				0.00				0.00				0.00	12.20														
	18	19	0.21	0.67	0.39	0.39			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	30	300	300	PVC	0.35	42.0	57.2089	0.8093	0.8649	0.525
	19	20	0.09	0.67	0.17	0.56			0.00	0.00			0.00	0.00			0.00	0.00	10.86	73.64	99.84	117.01	171.02	41	300	300	PVC	0.35	10.0	57.2089	0.8093	0.2059	0.719
To STREET '21', Pipe 20 - 21						0.56				0.00				0.00				0.00	11.07														
	59	55	0.05	0.68	0.09	0.09			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	7	300	300	PVC	0.35	13.5	57.2089	0.8093	0.2780	0.127
	55	56	0.02	0.68	0.04	0.13			0.00	0.00			0.00	0.00			0.00	0.00	10.28	75.75	102.75	120.44	176.06	10	375	375	PVC	0.30	13.0	96.0323	0.8695	0.2492	0.104

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

Designed:	PROJECT:		
M.S.	1226 - Barrhaven Conservancy West		
Checked:	LOCATION:		
W.L./V.W.	**City of Ottawa**		
Dwg. Reference:	File Ref:	Date: 09 Dec 2022	Sheet No. SHEET 2 OF 7

1226_stm.xlsx

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

Ottawa

LOCATION			AREA (Ha) 2 YEAR				5 YEAR				10 YEAR				100 YEAR				FLOW Time of Conc.	Intensity 2 Year	Intensity 5 Year	Intensity 10 Year	Intensity 100 Year	Peak Flow	SEWER DATA DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF FLOW	RATIO
Location	From Node	To Node	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	AREA (Ha)	R	Indiv. 2.78 AC	Accum. 2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	(min)	Q/Q full
			0.30	0.80	0.67	0.80			0.00	0.00			0.00	0.00			0.00	0.00															
	56	58			0.00	0.80	0.44	0.40	0.49	0.49			0.00	0.00			0.00	0.00	10.53	74.84	101.49	118.96	173.88	109	450	450	CONC	0.20	102.5	127.5033	0.8017	2.1309	0.859
To STREET '16', Pipe 58 - 62						0.80				0.49				0.00				0.00	12.66														
STREET '24'																																	
Contribution From STREET '9', Pipe 7 - 8						0.80				0.00				0.00				0.00	11.42														
	8	9	0.21	0.67	0.39	1.19			0.00	0.00			0.00	0.00			0.00	0.00	11.42	71.76	97.25	113.97	166.55	86	450	450	CONC	0.20	67.5	127.5033	0.8017	1.4033	0.671
Contribution From STREET '22', Pipe 6 - 9						4.10				0.00				0.00				0.00	17.11														
	9	10	0.24	0.67	0.45	5.74			0.00	0.00			0.00	0.00			0.00	0.00	17.11	57.21	77.32	90.52	132.13	328	825	825	CONC	0.11	62.5	476.0801	0.8906	1.1696	0.689
	10	11	0.72	0.67	1.34	7.08			0.00	0.00			0.00	0.00			0.00	0.00	18.27	54.98	74.28	86.95	126.89	389	825	825	CONC	0.11	122.0	476.0801	0.8906	2.2831	0.817
	11	12	0.48	0.67	0.89	7.97			0.00	0.00			0.00	0.00			0.00	0.00	20.56	51.15	69.05	80.80	117.88	408	825	825	CONC	0.11	80.0	476.0801	0.8906	1.4971	0.857
	12	13	0.10	0.67	0.19	8.16			0.00	0.00			0.00	0.00			0.00	0.00	22.05	48.94	66.04	77.27	112.70	399	825	825	CONC	0.11	13.5	476.0801	0.8906	0.2526	0.839
	13	14	0.15	0.67	0.28	8.44			0.00	0.00			0.00	0.00			0.00	0.00	22.31	48.59	65.56	76.70	111.88	410	900	900	CONC	0.11	32.0	600.4123	0.9438	0.5651	0.683
	14	15	0.07	0.67	0.13	8.57			0.00	0.00			0.00	0.00			0.00	0.00	22.87	47.83	64.52	75.48	110.08	410	900	900	CONC	0.11	17.0	600.4123	0.9438	0.3002	0.682
	15	17	0.02	0.67	0.04	8.61			0.00	0.00			0.00	0.00			0.00	0.00	23.17	47.43	63.98	74.84	109.15	408	900	900	CONC	0.11	10.0	600.4123	0.9438	0.1766	0.680
To STREET '25', Pipe 17 - 28						8.61				0.00				0.00				0.00	23.35														
STREET '26'																																	
	43	44	0.60	0.67	1.12	1.12			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	86	450	450	CONC	0.20	101.0	127.5033	0.8017	2.0997	0.673
	44	45	0.06	0.67	0.11	1.23			0.00	0.00			0.00	0.00			0.00	0.00	12.10	69.58	94.27	110.46	161.40	86	450	450	CONC	0.20	12.5	127.5033	0.8017	0.2599	0.671
To STREET '28', Pipe 45 - 46						1.23				0.00				0.00				0.00	12.36														
STREET '28'																																	
Contribution From STREET '26', Pipe 44 - 45						1.23				0.00				0.00				0.00	12.36														
	45	46			0.00	1.23			0.00	0.00			0.00	0.00			0.00	0.00	12.36	68.79	93.19	109.18	159.53	85	450	450	CONC	0.20	55.0	127.5033	0.8017	1.1434	0.663
To STREET '27', Pipe 46 - OGS W2						1.23				0.00				0.00				0.00	13.50														
STREET '23'																																	
	34	36	0.19	0.67	0.35	0.35			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	27	300	300	PVC	0.35	42.0	57.2089	0.8093	0.8649	0.475
To STREET '25', Pipe 36 - 37						0.35				0.00				0.00				0.00	10.86														
	35	36	0.20	0.67	0.37	0.37			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	29	300	300	PVC	0.35	34.0	57.2089	0.8093	0.7002	0.500
To STREET '25', Pipe 36 - 37						0.37				0.00				0.00				0.00	10.70														
	35	29	0.50	0.67	0.93	0.93			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	72	450	450	CONC	0.20	77.5	127.5033	0.8017	1.6112	0.561
	29	30	0.21	0.67	0.39	1.32			0.00	0.00			0.00	0.00			0.00	0.00	11.61	71.13	96.39	112.95	165.06	94	450	450	CONC	0.20	16.0	127.5033	0.8017	0.3326	0.738
	30	31	0.48	0.67	0.89	2.22			0.00	0.00			0.00	0.00			0.00	0.00	11.94	70.07	94.94	111.24	162.55	155	525	525	CONC	0.20	82.5	192.3297	0.8885	1.5476	0.808
	31	33	0.46	0.67	0.86	3.07			0.00	0.00			0.00	0.00			0.00	0.00	13.49	65.57	88.77	103.98	151.90	202	750	750	CONC	0.11	82.0	369.2322	0.8358	1.6352	0.546
To STREET '1', Pipe 33 - 38						3.07				0.00				0.00				0.00	15.13														
STREET '25'																																	
Contribution From STREET '23', Pipe 34 - 36						0.35				0.00				0.00				0.00	10.86														
Contribution From STREET '23', Pipe 35 - 36						0.37				0.00				0.00				0.00	10.70														
	36	37	0.02	0.67	0.04	0.76			0.00	0.00			0.00	0.00			0.00	0.00	10.86	73.64	99.84	117.01	171.02	56	375	375	PVC	0.30	13.0	96.0323	0.8695	0.2492	0.586
	37	38	0.48	0.67	0.89	1.66			0.00	0.00			0.00	0.00			0.00	0.00	11.11	72.78	98.65	115.62	168.98	121	750	750	CONC	0.11	127.5	369.2322	0.8358	2.5426	0.327
Contribution From STREET '1', Pipe 33 - 38						3.07				2.35				0.00				0.00	17.36														
	38	39	0.23	0.67	0.43	5.16			0.00	2.35			0.00	0.00			0.00	0.00	17.36	56.70	76.63	89.70	130.94	473	900	900	CONC	0.11	62.0	600.4123	0.9438	1.0949	0.787
To STREET '27', Pipe 39 - 40						5.16				2.35				0.00				0.00	18.46														
	16	17	0.23	0.67	0.43	0.43			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	33	300	300	PVC	0.35	43.0	57.2089	0.8093	0.8855	0.575
Contribution From STREET '24', Pipe 15 - 17						8.61				0.00				0.00				0.00	23.35														
	17	28	0.22	0.67	0.41	9.44			0.00	0.00			0.00	0.00			0.00	0.00	23.35	47.20	63.66	74.47	108.61	446	900	900	CONC	0.11	59.0	600.4123	0.9438	1.0419	0.742
Contribution From STREET '21', Pipe 27 - 28						5.64				0.00				0.00				0.00	19.82														
	28	OGS W1	0.08	0.67	0.15	15.24			0.00	0.00			0.00	0.00			0.00	0.00	24.39	45.89	61.89	72.39	105.55	699	1050	1050	CONC	0.11	27.5	905.6791	1.0459	0.4382	0.772

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

Designed: M.S.	PROJECT: 1226 - Barrhaven Conservancy West	
Checked: W.L./V.W.	LOCATION: **City of Ottawa**	
Dwg. Reference:	File Ref: Date: 09 Dec 2022	Sheet No. SHEET 3 OF 7

1226_stm.xlsx

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Arterial Roads Return Frequency = 10 years

Manning 0.013

Ottawa

LOCATION			AREA (Ha)																FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
STREET '27'																																	
Contribution From STREET '25', Pipe 38 - 39						5.16				2.35				0.00				0.00	18.46														
	39	40	0.22	0.67	0.41	5.57			0.00	2.35			0.00	0.00			0.00	0.00	18.46	54.65	73.83	86.41	126.11	478	975	975	CONC	0.11	64.5	743.2733	0.9955	1.0798	0.643
	40	41	0.20	0.67	0.37	5.94			0.00	2.35			0.00	0.00			0.00	0.00	19.54	52.79	71.28	83.42	121.73	481	975	975	CONC	0.11	49.5	743.2733	0.9955	0.8287	0.647
	41	42	0.14	0.67	0.26	6.20			0.00	2.35			0.00	0.00			0.00	0.00	20.37	51.45	69.46	81.28	118.58	482	975	975	CONC	0.11	13.0	743.2733	0.9955	0.2176	0.649
	42	46	0.63	0.67	1.17	7.38			0.00	2.35			0.00	0.00			0.00	0.00	20.58	51.11	68.99	80.73	117.79	539	975	975	CONC	0.11	107.5	743.2733	0.9955	1.7997	0.725
Contribution From STREET '28', Pipe 45 - 46						1.23				0.00				0.00				0.00	13.50														
			0.01	0.67	0.02	8.62			0.00	2.35			0.00	0.00			0.00	0.00															
	46	OGS W2	0.11	0.67	0.20	8.83			0.00	2.35			0.00	0.00			0.00	0.00	22.38	48.49	65.42	76.53	111.63	582	975	975	CONC	0.11	7.5	743.2733	0.9955	0.1256	0.783
STREET '7'																																	
Contribution From STREET '1', Pipe 115 - 117						0.00				0.38				0.00				0.00	10.70														
Contribution From STREET '1', Pipe 116 - 117						0.00				0.23				0.00				0.00	10.35														
			0.15	0.80	0.33	0.33			0.00	0.60			0.00	0.00			0.00	0.00															
	117	118	0.21	0.68	0.40	0.73			0.00	0.60			0.00	0.00			0.00	0.00	10.70	74.21	100.62	117.93	172.37	115	750	750	CONC	0.11	78.5	369.2322	0.8358	1.5654	0.312
			0.15	0.80	0.33	1.06			0.00	0.60			0.00	0.00			0.00	0.00															
	118	120	0.22	0.68	0.42	1.48			0.00	0.60			0.00	0.00			0.00	0.00	12.27	69.07	93.56	109.62	160.18	159	750	750	CONC	0.11	84.5	369.2322	0.8358	1.6851	0.430
To STREET '29', Pipe 120 - 121						1.48				0.60				0.00				0.00	13.95														
STREET '6'																																	
Contribution From STREET '1', Pipe 111 - 112						0.00				0.36				0.00				0.00	10.73														
	112	113	0.31	0.80	0.69	0.69			0.00	0.36			0.00	0.00			0.00	0.00	10.73	74.10	100.47	117.76	172.12	87	750	750	CONC	0.11	78.0	369.2322	0.8358	1.5555	0.236
	113	114	0.29	0.80	0.64	1.33			0.00	0.36			0.00	0.00			0.00	0.00	12.29	69.01	93.48	109.53	160.03	126	750	750	CONC	0.11	78.0	369.2322	0.8358	1.5555	0.340
To STREET '2', Pipe 114 - 120						1.33				0.36				0.00				0.00	13.84														
STREET '4'																																	
	78	79	0.09	0.80	0.20	0.20			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	15	300	300	PVC	0.35	33.0	57.2089	0.8093	0.6796	0.269
To STREET '2', Pipe 79 - 81						0.20				0.00				0.00				0.00	10.68														
	78	103	0.43	0.80	0.96	0.96			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	73	750	750	CONC	0.11	107.5	369.2322	0.8358	2.1437	0.199
To STREET '5', Pipe 103 - 106						0.96				0.00				0.00				0.00	12.14														
STREET '3'																																	
			0.23	0.80	0.51	0.51			0.00	0.00			0.00	0.00			0.00	0.00															
	80	102	0.31	0.68	0.59	1.10			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	84	450	450	CONC	0.20	115.5	127.5033	0.8017	2.4012	0.661
To STREET '5', Pipe 102 - 103						1.10				0.00				0.00				0.00	12.40														
STREET '1'																																	
	111	112			0.00	0.00	0.19	0.68	0.36	0.36			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	37	600	600	CONC	0.15	37.0	237.8056	0.8411	0.7332	0.157
To STREET '6', Pipe 112 - 113						0.00				0.36				0.00				0.00	10.73														
	115	117			0.00	0.00	0.20	0.68	0.38	0.38			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	39	600	600	CONC	0.15	35.5	237.8056	0.8411	0.7035	0.166
To STREET '7', Pipe 117 - 118						0.00				0.38				0.00				0.00	10.70														
	116	117			0.00	0.00	0.12	0.68	0.23	0.23			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	24	600	600	CONC	0.15	17.5	237.8056	0.8411	0.3468	0.099
To STREET '7', Pipe 117 - 118						0.00				0.23				0.00				0.00	10.35														
	75	76			0.00	0.00	0.09	0.68	0.17	0.17			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	18	300	300	PVC	0.35	23.5	57.2089	0.8093	0.4839	0.310
To STREET '2', Pipe 76 - 81						0.00				0.17				0.00				0.00	10.48														
	75	101			0.00	0.00	0.77	0.68	1.46	1.46			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	152	525	525	CONC	0.20	115.5	192.3297	0.8885	2.1667	0.789
To STREET '5', Pipe 101 - 102						0.00				1.46				0.00				0.00	12.17														
	73	74			0.00	0.00	0.54	0.67	1.01	1.01			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	105	450	450	CONC	0.25	73.5	142.5531	0.8963	1.3667	0.735
	74	76			0.00	0.00	0.47	0.67	0.88	1.88			0.00	0.00			0.00	0.00	11.37	71.93	97.49	114.25	166.96	183	525	525	CONC	0.25	73.5	215.0311	0.9933	1.2332	0.853
To STREET '2', Pipe 76 - 81						0.00				1.88				0.00				0.00	12.60														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

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Designed: M.S.	PROJECT: 1226 - Barrhaven Conservancy West			
Checked: W.L./V.W.	LOCATION: City of Ottawa			
Dwg. Reference:	File Ref:		Date: 09 Dec 2022	Sheet No. SHEET 4 OF 7

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Manning 0.013

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Arterial Roads Return Frequency = 10 years

Ottawa

LOCATION			AREA (Ha)																FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
	32	33			0.00	0.00	0.30	0.67	0.56	0.56			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	58	300	300	PVC	0.50	32.0	68.3778	0.9673	0.5513	0.851
Contribution From STREET '23', Pipe 31 - 33						3.07				0.00				0.00				0.00	15.13														
					0.00	3.07	0.52	0.67	0.97	1.53			0.00	0.00			0.00	0.00															
	33	38			0.00	3.07	0.74	0.40	0.82	2.35			0.00	0.00			0.00	0.00	15.13	61.47	83.15	97.37	142.19	384	825	825	CONC	0.11	119.5	476.0801	0.8906	2.2363	0.807
To STREET '25', Pipe 38 - 39						3.07				2.35				0.00				0.00	17.36														
STREET '31'																																	
	91	93	0.52	0.67	0.97	0.97			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	74	375	375	PVC	0.30	70.0	96.0323	0.8695	1.3418	0.775
To STREET '16', Pipe 93 - 94						0.97				0.00				0.00				0.00	11.34														
STREET '16'																																	
	92	93	0.05	0.67	0.09	0.09			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	7	300	300	PVC	1.00	28.0	96.7008	1.3680	0.3411	0.074
Contribution From STREET '31', Pipe 91 - 93						0.97				0.00				0.00				0.00	11.34														
	93	94	0.04	0.67	0.07	1.14			0.00	0.00			0.00	0.00			0.00	0.00	11.34	72.01	97.60	114.38	167.16	82	450	450	CONC	0.20	30.5	127.5033	0.8017	0.6341	0.642
To STREET '13', Pipe 94 - 95						1.14				0.00				0.00				0.00	11.98														
			0.11	0.80	0.24	0.24			0.00	0.00			0.00	0.00			0.00	0.00															
	57	58	0.16	0.68	0.30	0.55			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	42	600	600	CONC	0.15	53.0	237.8056	0.8411	1.0503	0.177
Contribution From STREET '9', Pipe 56 - 58						0.80				0.49				0.00				0.00	12.66														
	58	62	0.14	0.80	0.31	1.66			0.00	0.49			0.00	0.00			0.00	0.00	12.66	67.91	91.98	107.76	157.43	158	600	600	CONC	0.15	49.5	237.8056	0.8411	0.9809	0.663
Contribution From STREET '15', Pipe 61 - 62						1.79				0.00				0.00				0.00	13.93														
	62	65	0.11	0.80	0.24	3.70			0.00	0.49			0.00	0.00			0.00	0.00	13.93	64.42	87.19	102.12	149.16	281	750	750	CONC	0.11	44.0	369.2322	0.8358	0.8774	0.760
To STREET '11', Pipe 65 - 67						3.70				0.49				0.00				0.00	14.81														
STREET '13'																																	
Contribution From STREET '16', Pipe 93 - 94						1.14				0.00				0.00				0.00	11.98														
	94	95	0.53	0.68	1.00	2.14			0.00	0.00			0.00	0.00			0.00	0.00	11.98	69.97	94.80	111.08	162.31	150	525	525	CONC	0.20	75.5	192.3297	0.8885	1.4163	0.778
	95	96	0.41	0.68	0.78	2.91			0.00	0.00			0.00	0.00			0.00	0.00	13.39	65.84	89.14	104.42	152.53	192	600	600	CONC	0.15	66.0	237.8056	0.8411	1.3079	0.807
To STREET '20', Pipe 96 - 100						2.91				0.00				0.00				0.00	14.70														
STREET '19'																																	
			0.12	0.80	0.27	0.27			0.00	0.00			0.00	0.00			0.00	0.00															
	68	98	0.16	0.68	0.30	0.57			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	44	450	450	CONC	0.20	60.5	127.5033	0.8017	1.2578	0.343
To STREET '12', Pipe 98 - 99						0.57				0.00				0.00				0.00	11.26														
			0.17	0.80	0.38	0.38			0.00	0.00			0.00	0.00			0.00	0.00															
	68	69	0.22	0.68	0.42	0.79			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	61	450	450	CONC	0.20	85.5	127.5033	0.8017	1.7775	0.478
To STREET '11', Pipe 69 - 70						0.79				0.00				0.00				0.00	11.78														
STREET '18'																																	
	66	97	0.24	0.80	0.53	0.53			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	41	450	450	CONC	0.20	60.5	127.5033	0.8017	1.2578	0.322
To STREET '12', Pipe 97 - 98						0.53				0.00				0.00				0.00	11.26														
	66	67	0.34	0.80	0.76	0.76			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	58	450	450	CONC	0.20	85.5	127.5033	0.8017	1.7775	0.455
To STREET '11', Pipe 67 - 69						0.76				0.00				0.00				0.00	11.78														
STREET '12'																																	
	57	97	0.17	0.68	0.32	0.32			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	25	600	600	CONC	0.15	44.5	237.8056	0.8411	0.8818	0.104
Contribution From STREET '18', Pipe 66 - 97						0.53				0.00				0.00				0.00	11.26														
	97	98	0.18	0.68	0.34	1.20			0.00	0.00			0.00	0.00			0.00	0.00	11.26	72.29	97.99	114.83	167.82	86	600	600	CONC	0.15	44.0	237.8056	0.8411	0.8719	0.363
Contribution From STREET '19', Pipe 68 - 98						0.57				0.00				0.00				0.00	11.26														
	98	99	0.23	0.68	0.43	2.20			0.00	0.00			0.00	0.00			0.00	0.00	12.13	69.49	94.15	110.31	161.18	153	600	600	CONC	0.15	62.5	237.8056	0.8411	1.2385	0.643
To STREET '20', Pipe 99 - 100						2.20				0.00				0.00				0.00	13.37														

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Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

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W. LIU
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22-12-09
PROVINCE OF ONTARIO

Designed:	PROJECT:		
M.S.	1226 - Barrhaven Conservancy West		
Checked:	LOCATION:		
W.L./V.W.	**City of Ottawa**		
Dwg. Reference:	File Ref:	Date: 09 Dec 2022	Sheet No. SHEET 5 OF 7

1226_stm.xlsx

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Manning 0.013

Local Roads Return Frequency = 2 years
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Arterial Roads Return Frequency = 10 years

LOCATION			AREA (Ha)																FLOW						SEWER DATA									
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
STREET '20'																																	
	71	72	0.50	0.68	0.95	0.95			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	73	750	750	CONC	0.11	72.5	369.2322	0.8358	1.4458	0.197
To STREET '17', Pipe 72 - 76						0.95				0.00				0.00				0.00	11.45														
Contribution From STREET '12', Pipe 98 - 99						2.20				0.00				0.00				0.00	13.37														
	99	100	0.21	0.68	0.40	2.60			0.00	0.00			0.00	0.00			0.00	0.00	13.37	65.91	89.23	104.52	152.69	171	750	750	CONC	0.11	56.5	369.2322	0.8358	1.1267	0.463
To Centerline 1001, Pipe 100 - 101						2.60				0.00				0.00				0.00	14.49														
Contribution From STREET '13', Pipe 95 - 96						2.91				0.00				0.00				0.00	14.70														
	96	100	0.16	0.68	0.30	3.22			0.00	0.00			0.00	0.00			0.00	0.00	14.70	62.48	84.54	99.01	144.59	201	750	750	CONC	0.11	16.5	369.2322	0.8358	0.3290	0.544
To Centerline 1001, Pipe 100 - 101						3.22				0.00				0.00				0.00	15.03														
Contribution From STREET '10', Pipe 53 - 54						3.60				0.00				0.00				0.00	17.20														
	54	70	0.19	0.67	0.35	3.96			0.00	0.00			0.00	0.00			0.00	0.00	17.20	57.02	77.06	90.21	131.68	226	750	750	CONC	0.11	48.0	369.2322	0.8358	0.9572	0.611
Contribution From STREET '11', Pipe 69 - 70						7.70				0.49				0.00				0.00	17.52														
			0.18	0.68	0.34	12.00			0.00	0.49			0.00	0.00			0.00	0.00															
	70	72	0.19	0.67	0.35	12.35			0.00	0.49			0.00	0.00			0.00	0.00	18.16	55.19	74.57	87.28	127.39	718	1050	1050	CONC	0.11	63.0	905.6791	1.0459	1.0039	0.793
To STREET '17', Pipe 72 - 76						12.35				0.49				0.00				0.00	19.16														
Centerline 1001																																	
Contribution From STREET '20', Pipe 96 - 100						3.22				0.00				0.00				0.00	15.03														
Contribution From STREET '20', Pipe 99 - 100						2.60				0.00				0.00				0.00	14.49														
	100	101	0.05	0.67	0.09	5.91			0.00	0.00			0.00	0.00			0.00	0.00	15.03	61.70	83.46	97.74	142.73	364	825	825	CONC	0.11	67.5	476.0801	0.8906	1.2632	0.765
To STREET '5', Pipe 101 - 102						5.91				0.00				0.00				0.00	16.29														
STREET '5'																																	
Contribution From Centerline 1001, Pipe 100 - 101						5.91				0.00				0.00				0.00	16.29														
Contribution From STREET '1', Pipe 750 - 101						0.00				1.46				0.00				0.00	12.17														
	101	102	0.16	0.80	0.36	6.26			0.00	1.46			0.00	0.00			0.00	0.00	16.29	58.88	79.60	93.20	136.07	485	900	900	CONC	0.11	60.0	600.4123	0.9438	1.0596	0.807
Contribution From STREET '3', Pipe 800 - 102						1.10				0.00				0.00				0.00	12.40														
	102	103	0.14	0.80	0.31	7.67			0.00	1.46			0.00	0.00			0.00	0.00	17.35	56.72	76.66	89.74	130.99	547	975	975	CONC	0.11	49.0	743.2733	0.9955	0.8203	0.735
Contribution From STREET '4', Pipe 780 - 103						0.96				0.00				0.00				0.00	12.14														
	103	106	0.11	0.80	0.24	8.87			0.00	1.46			0.00	0.00			0.00	0.00	18.17	55.17	74.54	87.25	127.33	598	975	975	CONC	0.11	47.5	743.2733	0.9955	0.7952	0.804
To STREET '2', Pipe 106 - 108						8.87				1.46				0.00				0.00	18.97														
STREET '2'																																	
	107	108			0.00	0.00	0.03	0.67	0.06	0.06			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	6	600	600	CONC	0.15	13.0	237.8056	0.8411	0.2576	0.024
To STREET '29', Pipe 108 - 109						0.00				0.06				0.00				0.00	10.26														
	119	120			0.00	0.00	0.12	0.67	0.22	0.22			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	23	600	600	CONC	0.15	14.5	237.8056	0.8411	0.2873	0.098
To STREET '29', Pipe 120 - 121						0.00				0.22				0.00				0.00	10.29														
	77	79			0.00	0.00	0.16	0.68	0.30	0.30			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	32	300	300	PVC	0.35	36.0	57.2089	0.8093	0.7413	0.551
Contribution From STREET '4', Pipe 78 - 79						0.20				0.00				0.00				0.00	10.68														
	79	81			0.00	0.20	0.18	0.68	0.34	0.64			0.00	0.00			0.00	0.00	10.74	74.07	100.43	117.71	172.05	79	375	375	PVC	0.30	49.0	96.0323	0.8695	0.9392	0.827
To STREET '8', Pipe 81 - 82						0.20				0.64				0.00				0.00	11.68														
Contribution From STREET '6', Pipe 113 - 114						1.33				0.36				0.00				0.00	13.84														
	114	120			0.00	1.33	0.09	0.67	0.17	0.53			0.00	0.00			0.00	0.00	13.84	64.64	87.49	102.48	149.68	132	750	750	CONC	0.11	44.5	369.2322	0.8358	0.8874	0.358
To STREET '29', Pipe 120 - 121						1.33				0.53				0.00				0.00	14.73														
	77	104			0.00	0.00	0.10	0.68	0.19	0.19			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	20	300	300	PVC	0.40	13.0	61.1589	0.8652	0.2504	0.322
	104	105			0.00	0.00	0.24	0.80	0.53	0.72			0.00	0.00			0.00	0.00	10.25	75.86	102.89	120.61	176.30	74	375	375	PVC	0.50	67.0	123.9771	1.1225	0.9948	0.600
	105	106			0.00	0.00	0.23	0.80	0.51	1.23			0.00	0.00			0.00	0.00	11.25	72.33	98.05	114.90	167.92	121	750	750	CONC	0.11	67.0	369.2322	0.8358	1.3361	0.328
Contribution From STREET '5', Pipe 103 - 106						8.87				1.46				0.00				0.00	18.97														
	106	108			0.00	8.87	0.05	0.67	0.09	2.78			0.00	0.00			0.00	0.00	18.97	53.75	72.60	84.97	124.00	679	1050	1050	CONC	0.11	25.0	905.6791	1.0459	0.3984	0.750
To STREET '29', Pipe 108 - 109						8.87				2.78				0.00				0.00	19.37														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

Designed: M.S.	PROJECT: 1226 - Barrhaven Conservancy West		
Checked: W.L./V.W.	LOCATION: City of Ottawa		
Dwg. Reference:	File Ref:	Date: 09 Dec 2022	Sheet No. SHEET 6 OF 7

1226_stm.xlsx

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

Ottawa

LOCATION			AREA (Ha)																FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min)	Q/Q full
Contribution From STREET '17', Pipe 72 - 76						13.48				0.49				0.00				0.00	20.16														
Contribution From STREET '1', Pipe 74 - 76						0.00				1.88				0.00				0.00	12.60														
Contribution From STREET '1', Pipe 75 - 76						0.00				0.17				0.00				0.00	10.48														
	76	81			0.00	13.48	0.12	0.67	0.22	2.76			0.00	0.00			0.00	0.00	20.16	51.77	69.90	81.80	119.34	891	1200	1200	CONC	0.11	60.0	1293.0625	1.1433	0.8746	0.689
To STREET '8', Pipe 81 - 82						13.48				2.76				0.00				0.00	21.04														
STREET '29'																																	
Contribution From STREET '2', Pipe 106 - 108						8.87				2.78				0.00				0.00	19.37														
Contribution From STREET '2', Pipe 107 - 108						0.00				0.06				0.00				0.00	10.26														
			0.16	0.67	0.30	9.17			0.00	2.84			0.00	0.00			0.00	0.00															
	108	109			0.00	9.17	0.44	0.40	0.49	3.33			0.00	0.00			0.00	0.00	19.37	53.07	71.67	83.88	122.40	725	1050	1050	CONC	0.11	50.5	905.6791	1.0459	0.8047	0.801
	109	110	0.01	0.67	0.02	9.19			0.00	3.33			0.00	0.00			0.00	0.00	20.17	51.76	69.88	81.77	119.31	708	1050	1050	CONC	0.11	12.0	905.6791	1.0459	0.1912	0.782
	110	121	0.08	0.67	0.15	9.34			0.00	3.33			0.00	0.00			0.00	0.00	20.36	51.46	69.47	81.29	118.60	712	1050	1050	CONC	0.11	59.0	905.6791	1.0459	0.9401	0.786
Contribution From STREET '2', Pipe 114 - 120						1.33				0.53				0.00				0.00	14.73														
Contribution From STREET '7', Pipe 118 - 120						1.48				0.60				0.00				0.00	13.95														
Contribution From STREET '2', Pipe 119 - 120						0.00				0.22				0.00				0.00	10.29														
	120	121	0.28	0.67	0.52	3.34			0.00	1.36			0.00	0.00			0.00	0.00	14.73	62.41	84.43	98.88	144.41	323	825	825	CONC	0.11	73.5	476.0801	0.8906	1.3755	0.678
	121	OGS W4	0.03	0.67	0.06	12.73			0.00	4.68			0.00	0.00			0.00	0.00	21.30	50.03	67.52	79.00	115.24	953	1200	1200	CONC	0.11	5.5	1293.0625	1.1433	0.0802	0.737

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
22-12-09
PROVINCE OF ONTARIO

Designed: M.S.	PROJECT: 1226 - Barrhaven Conservancy West	
Checked: W.L./V.W.	LOCATION: **City of Ottawa**	
Dwg. Reference:	File Ref:	Date: 09 Dec 2022	Sheet No. SHEET 7 OF 7

1226_stm.xlsx

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment B

PCSWMM Model Input Files

```
[TITLE]
;;Project Title/Notes

[OPTIONS]
;;Option             Value
FLOW_UNITS           LPS
INFILTRATION         HORTON
FLOW_ROUTING         DYNWAVE
LINK_OFFSETS         DEPTH
MIN_SLOPE            0
ALLOW_PONDING        NO
SKIP_STEADY_STATE    NO

START_DATE           12/05/2022
START_TIME           00:00:00
REPORT_START_DATE    12/05/2022
REPORT_START_TIME    00:00:00
END_DATE             12/06/2022
END_TIME             00:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          00:01:00
WET_STEP             00:05:00
DRY_STEP             00:05:00
ROUTING_STEP         5
RULE_STEP            00:00:00

INERTIAL_DAMPING     PARTIAL
NORMAL_FLOW_LIMITED  BOTH
FORCE_MAIN_EQUATION  H-W
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         0
MAX_TRIALS           8
HEAD_TOLERANCE       0.0015
SYS_FLOW_TOL         5
LAT_FLOW_TOL         5
MINIMUM_STEP         0.5
THREADS              6

[FILES]
;;Interfacing Files
USE HOTSTART "C:\OneDrive\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\1474(03)-21\202

[EVAPORATION]
;;Data Source    Parameters
;;-------------- ----------------
CONSTANT         0.0
DRY_ONLY         NO

[JUNCTIONS]
;;Name           Elevation  MaxDepth   InitDepth  SurDepth   Aponded
;;-------------- ---------- ---------- ---------- ---------- ----------
1                89.599     3.33       0          0          0
2                89.577     3.192      0          0          0
3                89.489     3.26       0          0          0
4                89.355     3.164      0          0          0
MH-10            90.377     3.053      0          0          0
MH-100           90.279     2.781      0          0          0
MH-101           90.13      2.76       0          0          0
MH-102           89.989     2.861      0          0          0
MH-103           89.915     2.875      0          0          0
MH-106           89.788     2.922      0          0          0
MH-108           89.7       2.97       0          0          0
MH-109           89.614     2.976      0          0          0
MH-11            90.223     3.017      0          0          0
MH-110           89.571     3.009      0          0          0
MH-12            90.105     3.025      0          0          0
MH-121           89.356     3.164      0          0          0
MH-13            90.015     3.095      0          0          0
MH-14            89.95      3.11       0          0          0
MH-15            89.901     3.139      0          0          0
MH-17            89.815     3.205      0          0          0
MH-28            89.6       3.33       0          0          0
MH-36            91.126     2.264      0          0          0
MH-37            90.368     3.002      0          0          0
MH-38            90.078     3.102      0          0          0
MH-39            89.935     3.145      0          0          0
MH-40            89.844     3.176      0          0          0
MH-41            89.76      3.18       0          0          0
MH-42            89.716     3.214      0          0          0
MH-46            89.578     3.192      0          0          0
MH-570           90.833     2.807      0          0          0
MH-60            91.241     2.489      0          0          0
MH-61            91.075     2.645      0          0          0
MH-62            90.878     2.652      0          0          0
MH-65            90.755     2.715      0          0          0
MH-67            90.632     2.768      0          0          0
```

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MH-69            90.509     2.821      0          0          0
MH-70            90.29      2.95       0          0          0
MH-72            90.071     3.079      0          0          0
MH-76            89.966     3.074      0          0          0
MH-81            89.84      3.11       0          0          0
MH-82            89.717     3.173      0          0          0
MH-83            89.61      3.18       0          0          0
MH-84            89.566     3.204      0          0          0
MH-9             90.466     3.054      0          0          0
MH-90            89.49      3.26       0          0          0
MH-97            90.746     2.424      0          0          0
MH-98            90.66      2.45       0          0          0
MH-99            90.416     2.594      0          0          0
OGS1             89.599     3.331      0          0          0
OGS2             89.577     3.193      0          0          0
OGS3             89.489     3.261      0          0          0
OGS4             89.355     3.165      0          0          0

[OUTFALLS]
;;Name           Elevation  Type       Stage Data       Gated    Route To
;;-------------- ---------- ---------- ---------------- -------- ----------------
MH-1001          89.57      FIXED      92.06            NO
MH-2000          89.57      FIXED      92.02            NO
MH-3000          89.46      FIXED      92.02            NO
MH-4001          89.35      FIXED      91.9             NO

[CONDUITS]
;;Name           From Node        To Node          Length     Roughness  InOffset   OutOffset  InitFlow   MaxF
;;-------------- ---------------- ---------------- ---------- ---------- ---------- ---------- ---------- ----
1                MH-28            OGS1             0.735      0.013      0          0          0          0
2                OGS1             1                0.753      0.013      0          0          0          0
3                MH-46            OGS2             0.93       0.013      0          0          0          0
4                OGS2             2                0.9        0.013      0          0          0          0
5                MH-90            OGS3             0.89       0.013      0          0          0          0
6                OGS3             3                0.977      0.013      0          0          0          0
7                MH-121           OGS4             0.782      0.013      0          0          0          0
8                OGS4             4                0.747      0.013      0          0          0          0
STM-100-101      MH-100           MH-101           67.5       0.013      0          0.075      0          0
STM-10-11        MH-10            MH-11            122        0.013      0          0.02       0          0
STM-101-102      MH-101           MH-102           60         0.013      0          0.075      0          0
STM-102-103      MH-102           MH-103           49         0.013      0          0.02       0          0
STM-103-106      MH-103           MH-106           47.5       0.013      0          0.075      0          0
STM-106-108      MH-106           MH-108           25         0.013      0          0.06       0          0
STM-108-109      MH-108           MH-109           50.5       0.013      0          0.03       0          0
STM-109-110      MH-109           MH-110           12         0.013      0          0.03       0          0
STM-110-121      MH-110           MH-121           59         0.013      0          0.15       0          0
STM-11-12        MH-11            MH-12            80         0.013      0          0.03       0          0
STM-12-13        MH-12            MH-13            13.5       0.013      0          0.075      0          0
STM-121-4001_2   4                MH-4001          4.324      0.013      0          0          0          0
STM-13-14        MH-13            MH-14            32         0.013      0          0.03       0          0
STM-14-15        MH-14            MH-15            17         0.013      0          0.03       0          0
STM-15-17        MH-15            MH-17            10         0.013      0          0.075      0          0
STM-17-28        MH-17            MH-28            59         0.013      0          0.15       0          0
STM-28-1001_2    1                MH-1001          26.301     0.013      0          0          0          0
STM-36-37        MH-36            MH-37            13         0.013      0          0.719      0          0
STM-37-38        MH-37            MH-38            127.5      0.013      0          0.15       0          0
STM-38-39        MH-38            MH-39            62         0.013      0          0.075      0          0
STM-39-40        MH-39            MH-40            64.5       0.013      0          0.02       0          0
STM-40-41        MH-40            MH-41            49.5       0.013      0          0.03       0          0
STM-41-42        MH-41            MH-42            13         0.013      0          0.03       0          0
STM-42-46        MH-42            MH-46            107.5      0.013      0          0.02       0          0
STM-46-2000_2    2                MH-2000          6.468      0.013      0          0          0          0
STM-570-97       MH-570           MH-97            44.5       0.013      0          0.02       0          0
STM-60-61        MH-60            MH-61            10.5       0.013      0          0.15       0          0
STM-61-62        MH-61            MH-62            124.5      0.013      0          0.06       0          0
STM-62-65        MH-62            MH-65            44         0.013      0          0.075      0          0
STM-65-67        MH-65            MH-67            44         0.013      0          0.075      0          0
STM-67-69        MH-67            MH-69            44         0.013      0          0.075      0          0
STM-69-70        MH-69            MH-70            63         0.013      0          0.15       0          0
STM-70-72        MH-70            MH-72            63         0.013      0          0.15       0          0
STM-72-76        MH-72            MH-76            68.5       0.013      0          0.03       0          0
STM-76-81        MH-76            MH-81            60         0.013      0          0.06       0          0
STM-81-82        MH-81            MH-82            57.5       0.013      0          0.06       0          0
STM-82-83        MH-82            MH-83            70         0.013      0          0.03       0          0
STM-83-84        MH-83            MH-84            12.5       0.013      0          0.03       0          0
STM-84-90        MH-84            MH-90            14.5       0.013      0          0.06       0          0
STM-90-3000_2    3                MH-3000          25.761     0.013      0          0          0          0
STM-9-10         MH-9             MH-10            62.5       0.013      0          0.02       0          0
STM-97-98        MH-97            MH-98            44         0.013      0          0.02       0          0
STM-98-99        MH-98            MH-99            62.5       0.013      0          0.15       0          0
STM-99-100       MH-99            MH-100           56.5       0.013      0          0.075      0          0

[WEIRS]
;;Name           From Node        To Node          Type         CrestHt    Qcoeff     Gated    EndCon   EndCoe
;;-------------- ---------------- ---------------- ------------ ---------- ---------- -------- -------- ------
STM-121-4001_1   MH-121           4                TRANSVERSE   0.66       1.8        NO       0        2
STM-28-1001_1    MH-28            1                TRANSVERSE   0.66       1.8        NO       0        2
STM-46-2000_1    MH-46            2                TRANSVERSE   0.65       1.8        NO       0        2
STM-90-3000_1    MH-90            3                TRANSVERSE   0.66       1.8        NO       0        2
```

```

[XSECTIONS]
;;Link           Shape        Geom1            Geom2      Geom3      Geom4      Barrels    Culvert
;;-------------- ------------ ---------------- ---------- ---------- ---------- ---------- ----------
1                CIRCULAR     0.75             0          0          0          1
2                CIRCULAR     0.75             0          0          0          1
3                CIRCULAR     0.675            0          0          0          1
4                CIRCULAR     0.675            0          0          0          1
5                CIRCULAR     0.75             0          0          0          1
6                CIRCULAR     0.75             0          0          0          1
7                CIRCULAR     0.75             0          0          0          1
8                CIRCULAR     0.75             0          0          0          1
STM-100-101      CIRCULAR     0.825            0          0          0          1
STM-10-11        CIRCULAR     0.825            0          0          0          1
STM-101-102      CIRCULAR     0.9              0          0          0          1
STM-102-103      CIRCULAR     0.975            0          0          0          1
STM-103-106      CIRCULAR     0.975            0          0          0          1
STM-106-108      CIRCULAR     1.05             0          0          0          1
STM-108-109      CIRCULAR     1.05             0          0          0          1
STM-109-110      CIRCULAR     1.05             0          0          0          1
STM-110-121      CIRCULAR     1.05             0          0          0          1
STM-11-12        CIRCULAR     0.825            0          0          0          1
STM-12-13        CIRCULAR     0.825            0          0          0          1
STM-121-4001_2   CIRCULAR     1.2              0          0          0          1
STM-13-14        CIRCULAR     0.9              0          0          0          1
STM-14-15        CIRCULAR     0.9              0          0          0          1
STM-15-17        CIRCULAR     0.9              0          0          0          1
STM-17-28        CIRCULAR     0.9              0          0          0          1
STM-28-1001_2    CIRCULAR     1.05             0          0          0          1
STM-36-37        CIRCULAR     0.375            0          0          0          1
STM-37-38        CIRCULAR     0.75             0          0          0          1
STM-38-39        CIRCULAR     0.9              0          0          0          1
STM-39-40        CIRCULAR     0.975            0          0          0          1
STM-40-41        CIRCULAR     0.975            0          0          0          1
STM-41-42        CIRCULAR     0.975            0          0          0          1
STM-42-46        CIRCULAR     0.975            0          0          0          1
STM-46-2000_2    CIRCULAR     0.975            0          0          0          1
STM-570-97       CIRCULAR     0.6              0          0          0          1
STM-60-61        CIRCULAR     0.6              0          0          0          1
STM-61-62        CIRCULAR     0.75             0          0          0          1
STM-62-65        CIRCULAR     0.75             0          0          0          1
STM-65-67        CIRCULAR     0.825            0          0          0          1
STM-67-69        CIRCULAR     0.9              0          0          0          1
STM-69-70        CIRCULAR     0.9              0          0          0          1
STM-70-72        CIRCULAR     1.05             0          0          0          1
STM-72-76        CIRCULAR     1.2              0          0          0          1
STM-76-81        CIRCULAR     1.2              0          0          0          1
STM-81-82        CIRCULAR     1.2              0          0          0          1
STM-82-83        CIRCULAR     1.2              0          0          0          1
STM-83-84        CIRCULAR     1.2              0          0          0          1
STM-84-90        CIRCULAR     1.2              0          0          0          1
STM-90-3000_2    CIRCULAR     1.2              0          0          0          1
STM-9-10         CIRCULAR     0.825            0          0          0          1
STM-97-98        CIRCULAR     0.6              0          0          0          1
STM-98-99        CIRCULAR     0.6              0          0          0          1
STM-99-100       CIRCULAR     0.75             0          0          0          1
STM-121-4001_1   RECT_OPEN    0.5              1.8        0          0
STM-28-1001_1    RECT_OPEN    0.5              1.8        0          0
STM-46-2000_1    RECT_OPEN    0.5              1.8        0          0
STM-90-3000_1    RECT_OPEN    0.5              1.8        0          0

[LOSSES]
;;Link           Kentry     Kexit      Kavg       Flap Gate  Seepage
;;-------------- ---------- ---------- ---------- ---------- ----------
1                0          4          0          NO         0
2                0          1.33       0          NO         0
3                0          4          0          NO         0
4                0          1.33       0          NO         0
5                0          4          0          NO         0
6                0          1.33       0          NO         0
7                0          4          0          NO         0
8                0          1.33       0          NO         0
STM-100-101      0          0.035      0          NO         0
STM-10-11        0          0.035      0          NO         0
STM-101-102      0          0.02       0          NO         0
STM-102-103      0          0.02       0          NO         0
STM-103-106      0          1.33       0          NO         0
STM-106-108      0          1.33       0          NO         0
STM-108-109      0          0.32       0          NO         0
STM-109-110      0          0.32       0          NO         0
STM-110-121      0          0.95       0          NO         0
STM-11-12        0          0.16       0          NO         0
STM-12-13        0          0.39       0          NO         0
STM-13-14        0          0.08       0          NO         0
STM-14-15        0          0.08       0          NO         0
STM-15-17        0          1.33       0          NO         0
STM-17-28        0          0.02       0          NO         0
STM-36-37        0          0.11       0          NO         0
STM-37-38        0          0.035      0          NO         0
```

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STM-38-39        0          1.33       0          NO         0
STM-39-40        0          0.02       0          NO         0
STM-40-41        0          0.47       0          NO         0
STM-41-42        0          0.39       0          NO         0
STM-42-46        0          0.02       0          NO         0
STM-570-97       0          0.02       0          NO         0
STM-60-61        0          0.21       0          NO         0
STM-61-62        0          1.33       0          NO         0
STM-62-65        0          1.33       0          NO         0
STM-65-67        0          0.02       0          NO         0
STM-67-69        0          0.02       0          NO         0
STM-69-70        0          1.33       0          NO         0
STM-70-72        0          1.33       0          NO         0
STM-72-76        0          0.035      0          NO         0
STM-76-81        0          1.33       0          NO         0
STM-81-82        0          1.33       0          NO         0
STM-82-83        0          0.39       0          NO         0
STM-83-84        0          0.39       0          NO         0
STM-84-90        0          1.33       0          NO         0
STM-9-10         0          0.02       0          NO         0
STM-97-98        0          0.02       0          NO         0
STM-98-99        0          1.33       0          NO         0
STM-99-100       0          1.33       0          NO         0

[INFLOWS]
;;Node           Constituent      Time Series      Type     Mfactor  Sfactor  Baseline Pattern
;;-------------- ---------------- ---------------- -------- -------- -------- -------- --------
MH-10            FLOW             ""               FLOW     1.0      1        61
MH-100           FLOW             ""               FLOW     1.0      1        192
MH-101           FLOW             ""               FLOW     1.0      1        120
MH-102           FLOW             ""               FLOW     1.0      1        62
MH-103           FLOW             ""               FLOW     1.0      1        52
MH-106           FLOW             ""               FLOW     1.0      1        81
MH-108           FLOW             ""               FLOW     1.0      1        46
MH-11            FLOW             ""               FLOW     1.0      1        19
MH-121           FLOW             ""               FLOW     1.0      1        227
MH-13            FLOW             ""               FLOW     1.0      1        2
MH-17            FLOW             ""               FLOW     1.0      1        36
MH-28            FLOW             ""               FLOW     1.0      1        253
MH-37            FLOW             ""               FLOW     1.0      1        121
MH-38            FLOW             ""               FLOW     1.0      1        351
MH-39            FLOW             ""               FLOW     1.0      1        5
MH-40            FLOW             ""               FLOW     1.0      1        4
MH-41            FLOW             ""               FLOW     1.0      1        1
MH-42            FLOW             ""               FLOW     1.0      1        57
MH-46            FLOW             ""               FLOW     1.0      1        42
MH-570           FLOW             ""               FLOW     1.0      1        25
MH-61            FLOW             ""               FLOW     1.0      1        129
MH-62            FLOW             ""               FLOW     1.0      1        150
MH-65            FLOW             ""               FLOW     1.0      1        102
MH-67            FLOW             ""               FLOW     1.0      1        52
MH-69            FLOW             ""               FLOW     1.0      1        56
MH-70            FLOW             ""               FLOW     1.0      1        227
MH-72            FLOW             ""               FLOW     1.0      1        38
MH-76            FLOW             ""               FLOW     1.0      1        135
MH-81            FLOW             ""               FLOW     1.0      1        54
MH-82            FLOW             ""               FLOW     1.0      1        9
MH-9             FLOW             ""               FLOW     1.0      1        328
MH-90            FLOW             ""               FLOW     1.0      1        61
MH-97            FLOW             ""               FLOW     1.0      1        63
MH-98            FLOW             ""               FLOW     1.0      1        68
MH-99            FLOW             ""               FLOW     1.0      1        18

[REPORT]
;;Reporting Options
INPUT      YES
CONTROLS   NO
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]
Node       MH-10            MH
Node       MH-100           MH
Node       MH-101           MH
Node       MH-102           MH
Node       MH-103           MH
Node       MH-106           MH
Node       MH-108           MH
Node       MH-109           MH
Node       MH-11            MH
Node       MH-110           MH
Node       MH-12            MH
Node       MH-121           MH
Node       MH-13            MH
Node       MH-14            MH
Node       MH-15            MH
Node       MH-17            MH
Node       MH-28            MH
```

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Node       MH-36            MH
Node       MH-37            MH
Node       MH-38            MH
Node       MH-39            MH
Node       MH-40            MH
Node       MH-41            MH
Node       MH-42            MH
Node       MH-46            MH
Node       MH-570           MH
Node       MH-60            MH
Node       MH-61            MH
Node       MH-62            MH
Node       MH-65            MH
Node       MH-67            MH
Node       MH-69            MH
Node       MH-70            MH
Node       MH-72            MH
Node       MH-76            MH
Node       MH-81            MH
Node       MH-82            MH
Node       MH-83            MH
Node       MH-84            MH
Node       MH-9             MH
Node       MH-90            MH
Node       MH-97            MH
Node       MH-98            MH
Node       MH-99            MH
Node       MH-1001          MH
Node       MH-2000          MH
Node       MH-3000          MH
Node       MH-4001          MH

[MAP]
DIMENSIONS       361167.0976      5012598.77375    362012.5884      5013304.82525
UNITS            Meters

[COORDINATES]
;;Node           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
1                361397.805         5012655.104
2                361514.378         5012694.566
3                361651.362         5012795.237
4                361972.422         5012832.031
MH-10            361229.473         5012901.573
MH-100           361770.387         5013075.776
MH-101           361797.145         5013013.577
MH-102           361821.057         5012958.819
MH-103           361840.671         5012914.024
MH-106           361859.784         5012870.375
MH-108           361882.782         5012880.618
MH-109           361903.056         5012834.317
MH-11            361276.266         5012789.141
MH-110           361913.458         5012828.108
MH-12            361307.29          5012715.44
MH-121           361972.037         5012832.911
MH-13            361316.727         5012706.114
MH-14            361348.591         5012703.619
MH-15            361365.578         5012706.457
MH-17            361374.51          5012710.416
MH-28            361397.42          5012656.019
MH-36            361274.201         5012939.975
MH-37            361282.629         5012930.004
MH-38            361331.549         5012812.424
MH-39            361355.516         5012755.515
MH-40            361414.729         5012780.453
MH-41            361460.146         5012799.578
MH-42            361472.228         5012794.652
MH-46            361513.992         5012695.483
MH-570           361657.22          5013191.185
MH-60            361513.921         5013272.732
MH-61            361513.285         5013262.473
MH-62            361563.864         5013148.92
MH-65            361523.763         5013131.057
MH-67            361541.625         5013090.956
MH-69            361559.487         5013050.854
MH-70            361585.105         5012993.338
MH-72            361642.459         5013019.665
MH-76            361670.332         5012957.093
MH-81            361693.64          5012902.065
MH-82            361641.33          5012878.765
MH-83            361668.398         5012814.088
MH-84            361663.904         5012802.313
MH-9             361205.529         5012959.106
MH-90            361650.936         5012796.131
MH-97            361675.279         5013150.488
MH-98            361693.086         5013110.361
MH-99            361718.45          5013053.203
OGS1             361398.117         5012655.795
OGS2             361514.896         5012695.296
```

```
OGS3             361650.404       5012795.416
OGS4             361972.786       5012832.684
MH-1001          361408.013       5012630.867
MH-2000          361516.888       5012688.605
MH-3000          361662.443       5012771.982
MH-4001          361974.157       5012828.07

[VERTICES]
;;Link           X-Coord          Y-Coord
;;-------------- ---------------- ----------------

```

```
[TITLE]
;;Project Title/Notes

[OPTIONS]
;;Option             Value
FLOW_UNITS           LPS
INFILTRATION         HORTON
FLOW_ROUTING         DYNWAVE
LINK_OFFSETS         DEPTH
MIN_SLOPE            0
ALLOW_PONDING        NO
SKIP_STEADY_STATE    NO

START_DATE           12/05/2022
START_TIME           00:00:00
REPORT_START_DATE    12/05/2022
REPORT_START_TIME    00:00:00
END_DATE             12/06/2022
END_TIME             00:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          00:01:00
WET_STEP             00:05:00
DRY_STEP             00:05:00
ROUTING_STEP         5
RULE_STEP            00:00:00

INERTIAL_DAMPING     PARTIAL
NORMAL_FLOW_LIMITED  BOTH
FORCE_MAIN_EQUATION  H-W
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         0
MAX_TRIALS           8
HEAD_TOLERANCE       0.0015
SYS_FLOW_TOL         5
LAT_FLOW_TOL         5
MINIMUM_STEP         0.5
THREADS              6

[FILES]
;;Interfacing Files
USE HOTSTART "C:\OneDrive\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\1474(03)-21\202

[EVAPORATION]
;;Data Source    Parameters
;;-------------- ----------------
CONSTANT         0.0
DRY_ONLY         NO

[JUNCTIONS]
;;Name           Elevation  MaxDepth   InitDepth  SurDepth   Aponded
;;-------------- ---------- ---------- ---------- ---------- ----------
1                89.599     3.33       0          0          0
2                89.577     3.192      0          0          0
3                89.489     3.26       0          0          0
4                89.355     3.164      0          0          0
MH-10            90.377     3.053      0          0          0
MH-100           90.279     2.781      0          0          0
MH-101           90.13      2.76       0          0          0
MH-102           89.989     2.861      0          0          0
MH-103           89.915     2.875      0          0          0
MH-106           89.788     2.922      0          0          0
MH-108           89.7       2.97       0          0          0
MH-109           89.614     2.976      0          0          0
MH-11            90.223     3.017      0          0          0
MH-110           89.571     3.009      0          0          0
MH-12            90.105     3.025      0          0          0
MH-121           89.356     3.164      0          0          0
MH-13            90.015     3.095      0          0          0
MH-14            89.95      3.11       0          0          0
MH-15            89.901     3.139      0          0          0
MH-17            89.815     3.205      0          0          0
MH-28            89.6       3.33       0          0          0
MH-36            91.126     2.264      0          0          0
MH-37            90.368     3.002      0          0          0
MH-38            90.078     3.102      0          0          0
MH-39            89.935     3.145      0          0          0
MH-40            89.844     3.176      0          0          0
MH-41            89.76      3.18       0          0          0
MH-42            89.716     3.214      0          0          0
MH-46            89.578     3.192      0          0          0
MH-570           90.833     2.807      0          0          0
MH-60            91.241     2.489      0          0          0
MH-61            91.075     2.645      0          0          0
MH-62            90.878     2.652      0          0          0
MH-65            90.755     2.715      0          0          0
MH-67            90.632     2.768      0          0          0
```

```
MH-69            90.509     2.821      0          0          0
MH-70            90.29      2.95       0          0          0
MH-72            90.071     3.079      0          0          0
MH-76            89.966     3.074      0          0          0
MH-81            89.84      3.11       0          0          0
MH-82            89.717     3.173      0          0          0
MH-83            89.61      3.18       0          0          0
MH-84            89.566     3.204      0          0          0
MH-9             90.466     3.054      0          0          0
MH-90            89.49      3.26       0          0          0
MH-97            90.746     2.424      0          0          0
MH-98            90.66      2.45       0          0          0
MH-99            90.416     2.594      0          0          0
OGS1             89.599     3.331      0          0          0
OGS2             89.577     3.193      0          0          0
OGS3             89.489     3.261      0          0          0
OGS4             89.355     3.165      0          0          0
[OUTFALLS]
;;Name           Elevation  Type       Stage Data       Gated    Route To
;;-------------- ---------- ---------- ---------------- -------- ----------------
MH-1001          89.57      FIXED      91.35            NO
MH-2000          89.57      FIXED      91.3             NO
MH-3000          89.46      FIXED      91.3             NO
MH-4001          89.35      FIXED      91.17            NO
[CONDUITS]
;;Name           From Node        To Node          Length     Roughness  InOffset   OutOffset  InitFlow   MaxF
;;-------------- ---------------- ---------------- ---------- ---------- ---------- ---------- ---------- ----
1                MH-28            OGS1             0.735      0.013      0          0          0          0
2                OGS1             1                0.753      0.013      0          0          0          0
3                MH-46            OGS2             0.93       0.013      0          0          0          0
4                OGS2             2                0.9        0.013      0          0          0          0
5                MH-90            OGS3             0.89       0.013      0          0          0          0
6                OGS3             3                0.977      0.013      0          0          0          0
7                MH-121           OGS4             0.782      0.013      0          0          0          0
8                OGS4             4                0.747      0.013      0          0          0          0
STM-100-101      MH-100           MH-101           67.5       0.013      0          0.075      0          0
STM-10-11        MH-10            MH-11            122        0.013      0          0.02       0          0
STM-101-102      MH-101           MH-102           60         0.013      0          0.075      0          0
STM-102-103      MH-102           MH-103           49         0.013      0          0.02       0          0
STM-103-106      MH-103           MH-106           47.5       0.013      0          0.075      0          0
STM-106-108      MH-106           MH-108           25         0.013      0          0.06       0          0
STM-108-109      MH-108           MH-109           50.5       0.013      0          0.03       0          0
STM-109-110      MH-109           MH-110           12         0.013      0          0.03       0          0
STM-110-121      MH-110           MH-121           59         0.013      0          0.15       0          0
STM-11-12        MH-11            MH-12            80         0.013      0          0.03       0          0
STM-12-13        MH-12            MH-13            13.5       0.013      0          0.075      0          0
STM-121-4001_2   4                MH-4001          4.324      0.013      0          0          0          0
STM-13-14        MH-13            MH-14            32         0.013      0          0.03       0          0
STM-14-15        MH-14            MH-15            17         0.013      0          0.03       0          0
STM-15-17        MH-15            MH-17            10         0.013      0          0.075      0          0
STM-17-28        MH-17            MH-28            59         0.013      0          0.15       0          0
STM-28-1001_2    1                MH-1001          26.301     0.013      0          0          0          0
STM-36-37        MH-36            MH-37            13         0.013      0          0.719      0          0
STM-37-38        MH-37            MH-38            127.5      0.013      0          0.15       0          0
STM-38-39        MH-38            MH-39            62         0.013      0          0.075      0          0
STM-39-40        MH-39            MH-40            64.5       0.013      0          0.02       0          0
STM-40-41        MH-40            MH-41            49.5       0.013      0          0.03       0          0
STM-41-42        MH-41            MH-42            13         0.013      0          0.03       0          0
STM-42-46        MH-42            MH-46            107.5      0.013      0          0.02       0          0
STM-46-2000_2    2                MH-2000          6.468      0.013      0          0          0          0
STM-570-97       MH-570           MH-97            44.5       0.013      0          0.02       0          0
STM-60-61        MH-60            MH-61            10.5       0.013      0          0.15       0          0
STM-61-62        MH-61            MH-62            124.5      0.013      0          0.06       0          0
STM-62-65        MH-62            MH-65            44         0.013      0          0.075      0          0
STM-65-67        MH-65            MH-67            44         0.013      0          0.075      0          0
STM-67-69        MH-67            MH-69            44         0.013      0          0.075      0          0
STM-69-70        MH-69            MH-70            63         0.013      0          0.15       0          0
STM-70-72        MH-70            MH-72            63         0.013      0          0.15       0          0
STM-72-76        MH-72            MH-76            68.5       0.013      0          0.03       0          0
STM-76-81        MH-76            MH-81            60         0.013      0          0.06       0          0
STM-81-82        MH-81            MH-82            57.5       0.013      0          0.06       0          0
STM-82-83        MH-82            MH-83            70         0.013      0          0.03       0          0
STM-83-84        MH-83            MH-84            12.5       0.013      0          0.03       0          0
STM-84-90        MH-84            MH-90            14.5       0.013      0          0.06       0          0
STM-90-3000_2    3                MH-3000          25.761     0.013      0          0          0          0
STM-9-10         MH-9             MH-10            62.5       0.013      0          0.02       0          0
STM-97-98        MH-97            MH-98            44         0.013      0          0.02       0          0
STM-98-99        MH-98            MH-99            62.5       0.013      0          0.15       0          0
STM-99-100       MH-99            MH-100           56.5       0.013      0          0.075      0          0
[WEIRS]
;;Name           From Node        To Node          Type         CrestHt    Qcoeff     Gated    EndCon   EndCoe
;;-------------- ---------------- ---------------- ------------ ---------- ---------- -------- -------- ------
STM-121-4001_1   MH-121           4                TRANSVERSE   0.66       1.8        NO       0        2
STM-28-1001_1    MH-28            1                TRANSVERSE   0.66       1.8        NO       0        2
STM-46-2000_1    MH-46            2                TRANSVERSE   0.65       1.8        NO       0        2
STM-90-3000_1    MH-90            3                TRANSVERSE   0.66       1.8        NO       0        2
```

```

[XSECTIONS]
;;Link           Shape        Geom1            Geom2      Geom3      Geom4      Barrels    Culvert
;;-------------- ------------ ---------------- ---------- ---------- ---------- ---------- ----------
1                CIRCULAR     0.75             0          0          0          1
2                CIRCULAR     0.75             0          0          0          1
3                CIRCULAR     0.675            0          0          0          1
4                CIRCULAR     0.675            0          0          0          1
5                CIRCULAR     0.75             0          0          0          1
6                CIRCULAR     0.75             0          0          0          1
7                CIRCULAR     0.75             0          0          0          1
8                CIRCULAR     0.75             0          0          0          1
STM-100-101      CIRCULAR     0.825            0          0          0          1
STM-10-11        CIRCULAR     0.825            0          0          0          1
STM-101-102      CIRCULAR     0.9              0          0          0          1
STM-102-103      CIRCULAR     0.975            0          0          0          1
STM-103-106      CIRCULAR     0.975            0          0          0          1
STM-106-108      CIRCULAR     1.05             0          0          0          1
STM-108-109      CIRCULAR     1.05             0          0          0          1
STM-109-110      CIRCULAR     1.05             0          0          0          1
STM-110-121      CIRCULAR     1.05             0          0          0          1
STM-11-12        CIRCULAR     0.825            0          0          0          1
STM-12-13        CIRCULAR     0.825            0          0          0          1
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NODES ALL
LINKS ALL

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Node       MH-109           MH
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Node       MH-110           MH
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Node       MH-15            MH
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Node       MH-28            MH
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Node       MH-38            MH
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Node       MH-46            MH
Node       MH-570           MH
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Node       MH-62            MH
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Node       MH-70            MH
Node       MH-72            MH
Node       MH-76            MH
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Node       MH-83            MH
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UNITS            Meters

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MH-103           361840.671         5012914.024
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MH-108           361882.782         5012880.618
MH-109           361903.056         5012834.317
MH-11            361276.266         5012789.141
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[VERTICES]
;;Link          X-Coord          Y-Coord
;;-------------- ------------------ ------------------

```

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Gatineau. QC
Montréal. QC
Québec. QC

December 13, 2022 Project Number: 1474

David Schaeffer Engineering Ltd
120 Iber Road, Unit 103
Ottawa, Ontario
K2S 1E9

Attention: Kevin Murphy, P.Eng

Subject: Barrhaven Conservancy West – Preliminary Water Balance

---

Introduction

Barrhaven Conservancy West Development is located in Barrhaven, Ontario, north of the Jock River, east of Highway 416 and west of the Foster Drain. The proposed development is approximately **34.15 ha** that will primarily comprise of single and townhouse residential lots. The following memo outlines how the proposed development will match/exceed the existing water budget through the use of LIDs.

Water Balance Overview

A pre-and post-development water balance has been completed for the site based on continuous hydrologic model simulations. As such a SWMHYMO model was developed that reflects the hydrologic conditions of these lands under pre-development, post-development without LIDs and post-development with LIDs conditions. These models were run using 36 years of hourly rainfall data from the Ottawa International Airport from 1967 to 2003 (excluding 2001 - missing rainfall data), and the average annual runoff volumes from the subject site were computed and compared. **Table A1 in Attachment A** outlines the continuous modelling parameters for both pre and post-development conditions. The following section outlines the modelling approach for each scenario and the results of this analysis.

Pre-Development

Based on the Soil Survey Complex mapping from the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) the site primarily consists of Carsonby - Silt (Type C) and Brandon -Silty Clay- (Type D) Soils. This was confirmed by Paterson Groups through onsite field investigations and boreholes which also reported Silt and Silty Clays through the majority of the site.

Based on the Southern Ontario Land Resource Information System (SOLRIS) the site consists primarily of tilled lands and hedgerows. Based on the underlying Land Use Type and Soil Classification at each location within a subcatchment, a Curve Number (CN) was calculated, based on applicable values outlined in **Tables A2 and A3** in the SWMHYMO Manual. Each Curve Number was then weighted based on the total area within the subcatchment to determine the weighted CN for that subcatchment. The CN value calculated was then converted to CN*, as CN* values have been shown to correlate well with measured flows and perform well in continuous SWMHYMO modelling (as discussed in the July 1989 INTERHYMO / OTTHYMO 89 Manual), when compared to conventional CN. Full details of the derivation of CN under existing conditions have been outlined in **Table A2** and **Figures A1 & A2** in **Attachment A**.

For this area, the time to peak (Tp) has been calculated based on existing topography. Flow paths have been discretized based on the topographic data using GIS tools and the longest major flow path within the subcatchment identified; refer to **Figure A3 in Attachment A** for the flow paths discretized for these lands. The upstream and downstream topographic elevations and flow lengths were identified for this subcatchment and used in the calculations. For these lands, the Federal Aviation Administration (FFA) method was determined to be the most appropriate method to calculate the Tp. Full details of these calculations have been provided in **Table A3 in Attachment A**, along with other time-to-peak values using alternative Tp calculation methods. This site under pre-development conditions has been represented in SWMHYMO using a CONTINUOUS NASHYD command, with all continuous parameters outlined in **Table A1 of Attachment A**. Note that the pre-development areas have been represented as 2 individual areas (east and west of the Okeefe drain) with the results of both areas added together to provide the full site pre-development water budget.

Post-Development – Without LIDs

Under post-development conditions, the site will have 4 individual storm sewer outlets, as such the development lands have been broken into these 4 discrete areas (with a total drainage area of 34.15 ha, matching existing conditions). Based on the development conceptual plan, the 34.15 ha site will have a total imperviousness of 68%, see figure A4 in Attachment A for an overview of the proposed development plan. These developed lands have been represented using CONTINUOUS STANDHYD commands in SWMHYMO. This scenario has been provided to quantify the average annual reduction in infiltration volume throughout the site due to the increase in impervious area.

In order to best represent infiltration over a long simulation period, and to provide a consistent comparison between pre- and post-development conditions, the SCS procedure was used to simulate infiltration over the subject site for both pre-and post-development conditions. Under post-development conditions, soils in the development areas will be defined by the characteristics of topsoil, which has a CN of 79 (CN* = 71) for urban lawns in fair condition.

Post-Development – With LIDs

As mentioned above the proposed development will have LIDs implemented throughout the site to offset any deficit in annual infiltration volume produced by the increase in the impervious area due to the development. For this analysis, it is assumed that the development will have infiltration LIDs implemented at the road catch basins. Runoff captured by the road catch basins will be directed to an infiltration trench, where it can infiltrate before discharging to the storm sewer system (see *Figure 5* in DSEL *Figures & Drawings* package for more details about the proposed LID configuration). A conceptual design of these LIDs systems has been completed but will be refined at detailed design when detailed grading is available, to yield optimal benefit from this LID approach. **Table 1** below outlines the parameters of these conceptual LIDs based on the current development plan. Each of the LID clusters have been represented in the model as single lumped ROUTE RESERVOIR commands, with the outflow of each command reflective of the soil infiltration rate and the volume reflective of the storage volume within each LID.

Soil Infiltration & Draw Down Time

Based on the Paterson Groups' geotechnical Investigation, the site consists of soil that typically has infiltration rates in the range of **9 mm/hr - 25 mm/hr**. As such it has been assumed that this site will have an infiltration rate of 9mm/hr with a safety factor of 2.5 (3.6 mm/hr). Based on a trench height of 0.4 m (with a void ratio of 0.4) these trenches will have a draw downtime of approximately **45 hours**. Note that in this analysis it is assumed that only the bottom of the trench can infiltrate, which is a conservative assumption.

Table 1: Proposed LID Summary

Parameter	OGS W1	OGS W2	OGS W3	OGS W4
Area (ha)	8.92	10.75	6.30	8.18
Runoff Coefficient	0.7	0.69	0.64	0.67
Total Imperviousness (%)	71	70	63	67
Pipe Length (m)	2028	2317	1098	1519
Pipe Dia (mm)	250	250	250	250
Perf. Pipe Length (m)	780	870	420	570
Pipe Vol. (m^3)	38.29	42.71	20.62	27.98
Trench Width (m)	1.25	1.25	1.25	1.25
Trench Height (m)	0.4	0.4	0.4	0.4
Trench Length (m)	30	30	30	30
Void Ratio	0.4	0.4	0.4	0.4
Trench Vol. (m^3)	140.68	156.92	75.75	102.81
Total Vol. (m^3)	179	200	96	131
Area of Trench (m^2)	975.00	1087.50	525.00	712.50
# of CB's	26	29	14	19
Soil Infiltration Rate (mm/hr)	9	9	9	9
Safety Factor	2.5	2.5	2.5	2.5
Reduced Rate (mm/hr)	3.6	3.6	3.6	3.6
Infiltration rate (m^3/s)	0.0010	0.0011	0.0005	0.0007

Water Budget Scenario Summary

The models were run for 36 years using hourly rainfall data from the Ottawa Airport, and the annual evaporation, infiltration and runoff volumes calculated for each scenario. Tables 2-4 summarize the annual average water balance under existing conditions and post-development conditions for the proposed development lands with and without LID measures in place, as m³/year, mm/year and % of total annual rainfall.

Table 2:Pre-Development Water Balance

Drainage Area (ha)		34.15	Imperviousness:	7%
Annual Average Volume	Precipitation	Evapotranspira-tion	Runoff	Infiltration
m^3	203,451	116,566	25,635	61,251
mm	596	341	75	179
%	100%	57.3%	12.6%	30.1%

Table 3:Post Development Water Balance – Without LIDs

Drainage Area (ha)		34.15	Imperviousness:	68%
Annual Average Volume	Precipitation	Evapotranspira-tion	Runoff	Infiltration
m^3	203,451	71,209	104,433	27,810
mm	596	209	306	81
%	100.0%	35.0%	51.3%	13.7%

Table 4:Post Development Water Balance – With LIDs

Drainage Area (ha)		34.15	Imperviousness:	68%
Annual Average Volume	Precipitation	Evapotranspira-tion	Runoff	Infiltration
m^3	203,451	71,209	79,285	52,957
mm	596	209	232	155
%	100%	35.0%	39.0%	26.0%

Based on this analysis of pre-development conditions, this site will evaporate **57.3%**, runoff **12.6%** and infiltrate **30.1%** of all annual rainfall. Under post-development conditions without LIDs, this site will evaporate **35.0%**, runoff **51.3%** and infiltrate **13.7%** of all annual rainfall, resulting in a deficit of 98 mm/year infiltrated from pre-development conditions. Under post-development conditions with LIDs, this site will evaporate **35.0%**, runoff **39.0%** and infiltrate **26.0%** and of all annual rainfall, resulting in a deficit of 24 mm/year infiltrated from pre-development conditions. Full annual breakdowns of the three conditions have been provided in **Attachment B, Tables B1-B3**. An average annual summary of the infiltration volume for each of the proposed LID measures is outlined in **Table B4**, which shows that the LIDs alone provide a total average annual infiltration volume of **72 mm/year**.

Conclusion

A preliminary water balance analysis of the existing site was completed to determine pre-development infiltration rates, based on continuous hydrologic model simulations. A post-development analysis for the site, where no LIDs were implemented, showed that the volume of annual rainfall infiltrated would decrease by **98 mm/yr**. (**-55%** from existing). Implementing LIDs in the way of infiltration trenches connected to the catchbasins would reduce this deficit to **24 mm/year** (**-4.1%** from existing). Based on the above it has been shown that the Barrhaven Conservancy West Developments will be able to meet pre-development infiltration rates within ±5% under post-development conditions through the use of LIDs.

Yours truly,
J.F Sabourin and Associates Inc.

Jonathon Burnett, P.Eng
Water Resources Engineer

cc: J.F Sabourin, M.Eng, P.Eng
Director of Water Resources Projects

LICENSED PROFESSIONAL ENGINEER
J. J. BURNETT
100227734
PROVINCE OF ONTARIO

Tables

Table 1:	Proposed LID Summary
Table 2:	Pre-Development Water Balance
Table 3:	Post Development Water Balance – Without LIDs
Table 4	Post Development Water Balance – With LIDs

Attachments

Attachment A:	SWMHYMO Models & Parameters
Attachment B:	Water Budget Results

Modelling Files (Provided Electronically)

SWMHYMO	BCD_WEST-PRE_v02.dat
	BCD_WEST-POST_v02.dat

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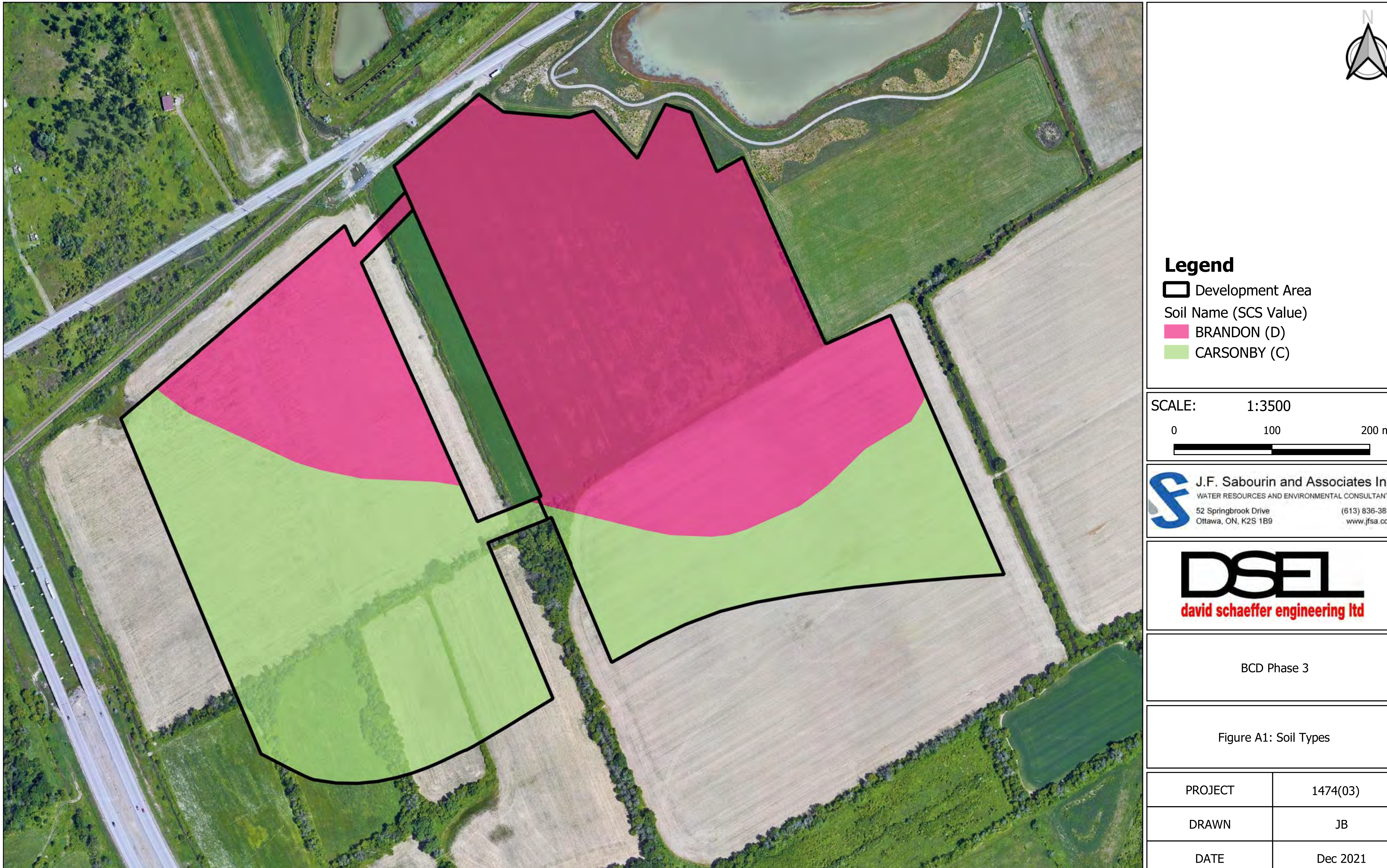
Attachment A

SWMHYMO Models & Parameters



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BCD Phase 3

Figure A1: Soil Types

PROJECT	1474(03)
DRAWN	JB
DATE	Dec 2021

C:\Users\jpipk\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\1474(03)-21\202212-BCDC West - Preliminary Design\Design\GIS\20221213-Drainage Area Update

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Figure A2: Land Use

PROJECT	1474(03)
DRAWN	JB
DATE	Dec 2022

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Legend

- Flow Lengths
- Development Area

Terrain (m)

- 90.5
- 91
- 91.5
- 92
- 92.5
- 93
- 93.5
- 94
- 94.5

Contours (0.25m)

SCALE: 1:3500

0 100 200 m

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Figure A3: Flow Paths

PROJECT	1474(03)
DRAWN	JB
DATE	Dec 2022

C:\OneDrive\J.F. Sabourin and Associates Inc\JFSA-OTTAWA-SERVER - Documents\PROJ\1474(03)-21\202212-BCDC West - Preliminary Design\Design\GIS\20221213-Drainage Area Update

N

Legend

Drainage Areas
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<Area (ha)>
<Runoff Coefficient>

Minor System

SCALE: 1:3500

0 100 200 m

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david schaeffer engineering ltd

BCD Phase 3

Figure A4: Proposed Development

PROJECT	1474(03)
DRAWN	JB
DATE	Dec 2022

Table A1: Continuous Simulation Parameters

Parameter(s) & Value(s)	Description
APII=[50], APIK=[0.90]/day	Used to compute the Antecedent Precipitation Index during the continuous simulation. Without model calibration, these are the default values.
IAimp = [1.57](mm), IAper=[4.67](mm)	Default Initial Abstraction (IA) values per the City of Ottawa Design Guidelines
IaREC=[6](hrs);	The time that it takes for the Initial Abstraction over pervious areas to recover during a dry period in undeveloped areas.
SMIN=[-1], SMAX=[-1](mm)	The negative values indicate that the storage volume in the SCS procedure will vary between the "S" determined for AMC I and AMC III conditions of the entered CN value in undeveloped and urban areas.
SK=[0.03]/(mm);	A calibration coefficient that can typically vary from 0.01 to 0.3 for undeveloped and urban areas. The higher the value, the more runoff generated. To set the baseline for existing conditions, it was decided to take a value in the low range.
InitGWResVol=[10](mm), GWResK=[0.9](mm/day/mm), VhydCond=[1](mm/hr);	Parameters that are used to simulate both the groundwater storage and discharge to surface watercourses from undeveloped areas. Without adequate field measurements, these parameters were selected based on previous continuous modelling experience.
IaRECper=[6](hrs);	The time that it takes for the Initial Abstraction over pervious areas to recover during a dry period in urban areas.
IaRECimp=[1.5](hrs);	The time that it takes for the Initial Abstraction over impervious areas to recover during a dry period in urban areas.
InterEventTime=[12](hrs)	The continuous dry time is required to reset the parameters in the SCS procedure to their initial values.

Table A2: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

Name	Total Area (ha)	West-A (19.67 ha)							
		Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
West-A	19.67	14.842	Tilled	BRANDON	D	Fair	84	75.5%	63.4
West-A	19.67	0.068	Hedge Rows	CARSONBY	C	Fair	70	0.3%	0.2
West-A	19.67	0.034	Hedge Rows	BRANDON	D	Fair	77	0.2%	0.1
West-A	19.67	4.726	Tilled	CARSONBY	C	Fair	79	24.0%	19.0
								CN	**82.7**
								CN*	**76**

Name	Total Area (ha)	West-B (14.48 ha)							
		Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
West-B	14.48	1.154	Hedge Rows	CARSONBY	C	Fair	70	8.0%	5.6
West-B	14.48	9.06	Tilled	CARSONBY	C	Fair	79	62.6%	49.4
West-B	14.48	4.266	Tilled	BRANDON	D	Fair	84	29.5%	24.7
								CN	**79.8**
								CN*	**72**

Table A3: Time to Peak Calculations

Parameter	Units	West-A	West-B
Area	ha	19.67	14.48
CN*	-	76	72
Ptotal to calc C from CN, use 2 yr 12 hr SCS stom	P(mm)	43.2	43.2
	Ia(mm)	4.67	4.67
	RV(mm)	12.7	10.8
C	-	0.29	0.25
Length of Channel	m	619	541
	ft	2029	1776
Elevation of Head Water	m	92.07	91.52
	ft	302	300
Elevation of Outlet	m	90.96	90.31
	ft	298	296
Average Slope	m/m	0.18%	0.22%
	ft/ft	0.18%	0.22%
Kirpich			
Time of Concentration	mins	31	26
Time to Peak	min	21	17
Time to Peak	Hours	0.35	0.29
FAA			
Time of Concentration	mins	116	106
Time to Peak	mins	77	71
Time to Peak	Hours	1.29	1.18
Barnsby Williams			
Time of Concentration	mins	37	32
Time to Peak	mins	25	21
Time to Peak	Hours	0.41	0.36
SCS			
Time of Concentration	mins	148	134
Time to Peak	mins	98	90
Time to Peak	Hours	1.64	1.49
Selected Method			
FAA			
Time to Peak	min	77	71
Time to Peak	Hours	1.29	1.18

Note:

All methods calculated as per Appendix A of the SWMHYMO manual

Time to Peak calculated as 2/3 Time of concentration

```
20     Metric units / ID Numbers OFF
*#************************************************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#************************************************************************************************************
*#  Project Name: Barrhaven Conservancy Development
*#  Project Number: 1474
*#  Date        : 2021/Oct/18
*#  Modeller    : J.Burnett, P.Eng.
*#  Updated     : 2022/Dec/07 [JB]
*#  Updated     : 2022/Dec/13 [LP]
*#  Company     : J.F. Sabourin and Associates
*#  License #   : 2582634
*#************************************************************************************************************
START               TZERO=[1967.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[67]
*%                   [""] <--storm filename, one per line for NSTORM time
*%-----------------|------------------------------------------------------------------------------------------
*# Ottawa International Airport (1967 - 2003)
READ AES DATA       AES_FILENAME=["YOW_1967_2007.123"],
                    IELEM=[123], START_DATE=[0], END_DATE=[-364]
*%-----------------|------------------------------------------------------------------------------------------
COMPUTE API         APII=[50], APIK=[0.90]/day
*%-----------------|------------------------------------------------------------------------------------------
*#************************************************************************************************************
*#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
*#************************************************************************************************************
*%-----------------|------------------------------------------------------------------------------------------
CONTINUOUS NASHYD   NHYD=["West-A"], DT=[5](min), AREA=[19.67](ha)
                    DWF=[0](cms),  CN/C=[76], IA=[4.67](mm), N=[3], TP=[1.29](hrs),
                    Continuous simulation parameters:
                      IaRECper=[6](hrs),SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs
                    Baseflow simulation parameters:
                      BaseFlowOption=[1] , InitGWResVol=[10](mm), GWResK=[0.9](mm/day/mm)
                      VHydCond=[1.0](mm/hr), END=-1
*%-----------------|------------------------------------------------------------------------------------------
CONTINUOUS NASHYD   NHYD=["West-B"], DT=[5](min), AREA=[14.48](ha)
                    DWF=[0](cms),  CN/C=[72], IA=[4.67](mm), N=[3], TP=[1.18](hrs),
                    Continuous simulation parameters:
                      IaRECper=[6](hrs),SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs
                    Baseflow simulation parameters:
                      BaseFlowOption=[1] , InitGWResVol=[10](mm), GWResK=[0.9](mm/day/mm)
                      VHydCond=[1.0](mm/hr), END=-1
*%-----------------|------------------------------------------------------------------------------------------
ADD HYD             NHYDsum=["West-Total"], NHYDs to add=["West-A","West-B"]
*%-----------------|------------------------------------------------------------------------------------------
*#************************************************************************************************************
*#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITION
*#************************************************************************************************************
*#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
*#************************************************************************************************************
CONTINUOUS NASHYD   NHYD=["INF-West-A"], DT=[5](min), AREA=[19.67](ha)
                    DWF=[0](cms),  CN/C=[99.99], IA=[4.67](mm), N=[3], TP=[1.29](hrs),
                    Continuous simulation parameters:
                      IaRECper=[6](hrs),SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs
                    Baseflow simulation parameters:
                      BaseFlowOption=[1] , InitGWResVol=[10](mm), GWResK=[0.9](mm/day/mm)
                      VHydCond=[1.0](mm/hr), END=-1
*%-----------------|------------------------------------------------------------------------------------------
CONTINUOUS NASHYD   NHYD=["INF-West-B"], DT=[5](min), AREA=[14.48](ha)
                    DWF=[0](cms),  CN/C=[99.99], IA=[4.67](mm), N=[3], TP=[1.18](hrs),
                    Continuous simulation parameters:
                      IaRECper=[6](hrs),SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs
                    Baseflow simulation parameters:
                      BaseFlowOption=[1] , InitGWResVol=[10](mm), GWResK=[0.9](mm/day/mm)
                      VHydCond=[1.0](mm/hr), END=-1
*%-----------------|------------------------------------------------------------------------------------------
ADD HYD             NHYDsum=["INF-West-Total"], NHYDs to add=["INF-West-A","INF-West-B"]
*%-----------------|------------------------------------------------------------------------------------------
*%-----------------|------------------------------------------------------------------------------------------
*###############################################################################
*# CONTINUOUS RAINFALL DATA
*###############################################################################
*%-----------------|------------------------------------------------------------------------------------------
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1968.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[68]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1969.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[69]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1970.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[70]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1971.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[71]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1972.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[72]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1973.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[73]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1974.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[74]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1975.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[75]
*%-----------------|------------------------------------------------------------------------------------------
```

```
START               TZERO=[1976.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[76]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1977.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[77]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1978.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[78]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1979.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[79]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1980.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[80]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1981.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[81]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1982.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[82]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1983.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[83]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1984.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[84]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1985.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[85]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1986.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[86]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1987.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[87]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1988.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[88]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1989.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[89]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1990.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[90]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1991.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[91]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1992.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[92]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1993.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[93]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1994.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[94]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1995.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[95]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1996.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[96]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1997.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[97]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1998.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[98]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[1999.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[99]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[2000.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[100]
*%-----------------|-------------------------------------------------------------------------------------
*% MISSING FROM AES RAINFALL DATA
*%START               TZERO=[2001.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[101]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[2002.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[102]
*%-----------------|-------------------------------------------------------------------------------------
START               TZERO=[2003.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[103]
*%-----------------|-------------------------------------------------------------------------------------
FINISH
```

```
 ===========================================================================================

 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000     11   5555    =========
 S        W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0    11   5
 SSSSS    W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0    11   5       Ver 5.500
     S     W W    M   M   H   H     Y     M   M   O   O        222    0   0    11   555     FEB  2015
 SSSSS     W W    M   M   H   H     Y     M   M    OOO        2       0   0    11      5    =========
                                                              2       0   0    11      5    # 2549237
      StormWater Management HYdrologic Model                   222     000     11   555     =========

 *******************************************************************************************
 **************************************  SWMHYMO Ver 5.500  **************************************
 ******************  A single event and continuous hydrologic simulation model  ******************
 ******************    based on the principles of HYMO and its successors       ******************
 ******************                 OTTHYMO-83 and OTTHYMO-89.                  ******************
 *******************************************************************************************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.          ******************
 ******************                  Ottawa,  Ontario: (613) 836-3884           ******************
 ******************                  Gatineau, Quebec: (819) 243-6858           ******************
 ******************                  E-Mail: swmhymo@jfsa.Com                   ******************
 *******************************************************************************************

 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 ++++++++++++++++++ Licensed user: JFSAinc.                                      +++++++++++++++++++
 ++++++++++++++++++                Ottawa              SERIAL#:2549237          +++++++++++++++++++
 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

 *******************************************************************************************
 ******************          ++++++ PROGRAM ARRAY DIMENSIONS ++++++             ******************
 ******************          Maximum value for ID numbers  :     11             ******************
 ******************          Max. number of rainfall points: 105408             ******************
 ******************          Max. number of flow points    : 105408             ******************
 *******************************************************************************************


 ********************************   S U M M A R Y   O U T P U T   ********************************
 *******************************************************************************************
 *                 RUN DATE: 2022-12-13     TIME: 12:43:36     RUN COUNTER: 004324              *
 *******************************************************************************************
 * Input   file: C:\Users\lpipk\Desktop\20221213-Pre-Dev\BCD_WEST-PRE_v02.dat                  *
 * Output  file: C:\Users\lpipk\Desktop\20221213-Pre-Dev\BCD_WEST-PRE_v02.out                  *
 * Summary file: C:\Users\lpipk\Desktop\20221213-Pre-Dev\BCD_WEST-PRE_v02.sum                  *
 * User comments:                                                                             *
 * 1:_________________________________________________________________________________________*
 * 2:_________________________________________________________________________________________*
 * 3:_________________________________________________________________________________________*
 *******************************************************************************************


#*************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*************************************************************************************************
  ** END OF RUN :   66

*******************************************************************************************





 RUN#:COMMAND#
R0067:C00001----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19670101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0067 ]
#*************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*************************************************************************************************
# Ottawa International Airport (1967 - 2003)
```

```
R0067:C00002----------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1967.0101: End_date= 1967.1231]
      {DT= 60.min: Length= 3984.hrs: WetHrs=  257: DryHrs= 3727: PTOT= 386.90}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       24.60    17.65    13.20     7.25     3.83     2.36     1.73     1.32      .90    mm/hr
       24.60    35.30    39.60    43.50    46.00    56.60    62.30    63.20    64.90    mm
      19670921 19670921 19670921 19670921 19670921 19670922 19670922 19670923 19670924  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          80       65       56       40       32       29       24       20       18
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          79       42       29       14        3        0        0        0        0
R0067:C00003----------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 76.77: APIavg= 24.81: APImin=  3.06}
#***************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************
R0067:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .214 1967.0921_19:10   70.91 .183     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0067:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .143 1967.0921_18:55   63.09 .163     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0067:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .214 1967.0921_19:10   70.91  n/a     .000
                    +     5.0 02:West-B        14.48     .143 1967.0921_18:55   63.09  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .356 1967.0921_19:05   67.59  n/a     .000
#***************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************
R0067:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .580 1967.0921_18:30  190.21 .492     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0067:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .450 1967.0921_18:25  190.21 .492     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0067:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .580 1967.0921_18:30  190.21  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .450 1967.0921_18:25  190.21  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15    1.028 1967.0921_18:30  190.21  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :   67

******************************************************************************************






 RUN#:COMMAND#
R0068:C00001----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19680101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0068 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0068:C00002----------------------------------------------------------------------------------
  *  READ AES DATA
```

```
      [Filename  = YOW_1967_2007.123                                         ]
      [Start_date= 1968.0101: End_date= 1968.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  413: DryHrs= 8347: PTOT= 592.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       33.30    17.05    11.37     6.23     3.74     1.87     1.26      .95      .70    mm/hr
       33.30    34.10    34.10    37.40    44.90    44.90    45.40    45.40    50.20    mm
      19680817 19680817 19680817 19680808 19680817 19680818 19680817 19680808 19680820  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         137      105       93       84       72       63       48       43       36
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         136       76       49       18        5        0        0        0        0
R0068:C00003------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 67.52: APIavg= 16.74: APImin=   .27}
#*************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************
R0068:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .213 1968.0817_ 6:05   77.11 .130     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0068:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .149 1968.0817_ 6:00   67.82 .114     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0068:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .213 1968.0817_ 6:05   77.11  n/a     .000
                    +     5.0 02:West-B        14.48     .149 1968.0817_ 6:00   67.82  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .361 1968.0817_ 6:00   73.17  n/a     .000
#*************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************
#                 Set infiltration to 0 (CN = 99.99) for water balance analysis
#*************************************************************************************************
R0068:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .597 1968.0817_ 5:55  257.40 .434     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0068:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .477 1968.0817_ 5:50  257.40 .434     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0068:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .597 1968.0817_ 5:55  257.40  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .477 1968.0817_ 5:50  257.40  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15    1.072 1968.0817_ 5:50  257.40  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   68

****************************************************************************************





 RUN#:COMMAND#
R0069:C00001------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19690101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0069 ]
#*************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0069:C00002------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                         ]
      [Start_date= 1969.0101: End_date= 1969.1231]
```

```
        {DT= 60.min: Length= 8760.hrs: WetHrs=  470: DryHrs= 8290: PTOT= 570.30}
        Maximum average rainfall intensities over
          1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         21.10    16.25    10.83     7.78     3.93     2.10     1.40     1.09      .75    mm/hr
         21.10    32.50    32.50    46.70    47.20    50.30    50.30    52.10    54.00    mm
        19690818 19690818 19690818 19690819 19690819 19690819 19690819 19690819 19690819  date
        Number of rainfall events per following interevent time
          1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
           157      119      107       92       72       58       49       43       32
        Number of events with at least the following durations
          1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
           156       84       58       21        5        0        0        0        0
 R0069:C00003-------------------------------------------------------------------------------------
       COMPUTE API
        [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
        {APImax= 56.77: APIavg= 16.06: APImin=   .06}
 #****************************************************************************************************
 #                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
 #****************************************************************************************************
 R0069:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     5.0 01:West-A        19.67     .189 1969.0819_ 3:00   63.40 .111     .000
        [CN= 76.0: N= 3.00: Tp= 1.29]
        [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
        [InterEventTime=  12.00]
 R0069:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     5.0 01:West-B        14.48     .134 1969.0819_ 2:55   55.35 .097     .000
        [CN= 72.0: N= 3.00: Tp= 1.18]
        [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
        [InterEventTime=  12.00]
 R0069:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD               5.0 02:West-A        19.67     .189 1969.0819_ 3:00   63.40  n/a     .000
                      +     5.0 02:West-B        14.48     .134 1969.0819_ 2:55   55.35  n/a     .000
                   SUM=     5.0 01:West-Total    34.15     .322 1969.0819_ 2:55   59.99  n/a     .000
 #****************************************************************************************************
 #                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
 #****************************************************************************************************
 #                  Set infiltration to 0 (CN = 99.99) for water balance analysis
 #****************************************************************************************************
 R0069:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .522 1969.0818_22:45  233.70 .410     .000
        [CN=100.0: N= 3.00: Tp= 1.29]
        [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
        [InterEventTime=  12.00]
 R0069:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .415 1969.0818_22:40  233.70 .410     .000
        [CN=100.0: N= 3.00: Tp= 1.18]
        [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
        [InterEventTime=  12.00]
 R0069:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD               5.0 02:INF-West-A    19.67     .522 1969.0818_22:45  233.70  n/a     .000
                      +     5.0 02:INF-West-B    14.48     .415 1969.0818_22:40  233.70  n/a     .000
                   SUM=     5.0 01:INF-West-T    34.15     .936 1969.0818_22:45  233.70  n/a     .000
 ################################################################################
 # CONTINUOUS RAINFALL DATA
 ################################################################################
   ** END OF RUN :   69

 ******************************************************************************************





  RUN#:COMMAND#
 R0070:C00001-------------------------------------------------------------------------------------
       START
        [TZERO =    .00 hrs on 19700101]
        [METOUT=   2    (1=imperial, 2=metric output)]
        [NSTORM=   0 ]
        [NRUN  = 0070 ]
 #****************************************************************************************************
 #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
 #****************************************************************************************************
 #  Project Name: Barrhaven Conservancy Development
 #  Project Number: 1474
 #  Date        : 2021/Oct/18
 #  Modeller    : J.Burnett, P.Eng.
 #  Updated     : 2022/Dec/07 [JB]
 #  Updated     : 2022/Dec/13 [LP]
 #  Company     : J.F. Sabourin and Associates
 #  License #   : 2582634
 #****************************************************************************************************
 # Ottawa International Airport (1967 - 2003)
 R0070:C00002-------------------------------------------------------------------------------------
   *  READ AES DATA
        [Filename  = YOW_1967_2007.123                                          ]
        [Start_date= 1970.0101: End_date= 1970.1231]
        {DT= 60.min: Length= 8760.hrs: WetHrs=  373: DryHrs= 8387: PTOT= 558.90}
        Maximum average rainfall intensities over
```

```
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        35.30    18.30    12.20     6.10     3.63     1.81     1.21     1.46      .99    mm/hr
        35.30    36.60    36.60    36.60    43.50    43.50    43.50    69.90    71.20    mm
       19700926 19700926 19700926 19700927 19700817 19700817 19700818 19700926 19700927  date
       Number of rainfall events per following interevent time
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          148      127      109       84       72       60       54       41       30
       Number of events with at least the following durations
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          147       79       40       15        3        0        0        0        0
R0070:C00003---------------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
       {APImax= 76.00: APIavg= 15.84: APImin=   .07}
#**************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************************
R0070:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     5.0 01:West-A        19.67     .270 1970.0926_22:05   60.26 .108     .000
       [CN= 76.0: N= 3.00: Tp= 1.29]
       [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
       [InterEventTime=  12.00]
R0070:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     5.0 01:West-B        14.48     .190 1970.0926_22:00   52.85 .095     .000
       [CN= 72.0: N= 3.00: Tp= 1.18]
       [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
       [InterEventTime=  12.00]
R0070:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:West-A        19.67     .270 1970.0926_22:05   60.26  n/a     .000
                     +     5.0 02:West-B        14.48     .190 1970.0926_22:00   52.85  n/a     .000
                  SUM=     5.0 01:West-Total    34.15     .459 1970.0926_22:05   57.12  n/a     .000
#**************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************************
R0070:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .647 1970.0926_21:55  222.47 .398     .000
       [CN=100.0: N= 3.00: Tp= 1.29]
       [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
       [InterEventTime=  12.00]
R0070:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .516 1970.0926_21:50  222.47 .398     .000
       [CN=100.0: N= 3.00: Tp= 1.18]
       [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
       [InterEventTime=  12.00]
R0070:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:INF-West-A    19.67     .647 1970.0926_21:55  222.47  n/a     .000
                     +     5.0 02:INF-West-B    14.48     .516 1970.0926_21:50  222.47  n/a     .000
                  SUM=     5.0 01:INF-West-T    34.15    1.161 1970.0926_21:55  222.47  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
   ** END OF RUN :    70

***************************************************************************************************






 RUN#:COMMAND#
R0071:C00001---------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on 19710101]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  = 0071 ]
#**************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0071:C00002---------------------------------------------------------------------------------------
   *  READ AES DATA
       [Filename  = YOW_1967_2007.123                                          ]
       [Start_date= 1971.0101: End_date= 1971.1231]
       {DT= 60.min: Length= 8760.hrs: WetHrs=  412: DryHrs= 8348: PTOT= 522.10}
       Maximum average rainfall intensities over
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        24.60    16.60    11.67     6.13     3.09     1.56     1.06      .79      .54    mm/hr
```

```
       24.60    33.20    35.00    36.80    37.10    37.40    38.00    38.00    38.90    mm
      19710810 19710810 19710810 19710810 19710810 19710810 19710811 19710812 19710830  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         156      123      113       93       72       61       52       42       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         155       81       59       21        2        0        0        0        0
R0071:C00003----------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 62.22: APIavg= 14.84: APImin=   .36}
#**********************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**********************************************************************************************
R0071:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .204 1971.0810_16:35   45.48 .087     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0071:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .139 1971.0810_16:30   39.74 .076     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0071:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .204 1971.0810_16:35   45.48  n/a     .000
                   +      5.0 02:West-B        14.48     .139 1971.0810_16:30   39.74  n/a     .000
                SUM=      5.0 01:West-Total    34.15     .342 1971.0810_16:35   43.04  n/a     .000
#**********************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**********************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**********************************************************************************************
R0071:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .575 1971.0810_16:20  181.82 .348     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0071:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .450 1971.0810_16:10  181.82 .348     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0071:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .575 1971.0810_16:20  181.82  n/a     .000
                   +      5.0 02:INF-West-B    14.48     .450 1971.0810_16:10  181.82  n/a     .000
                SUM=      5.0 01:INF-West-T    34.15    1.024 1971.0810_16:15  181.82  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   71

***********************************************************************************************





 RUN#:COMMAND#
R0072:C00001----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19720101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0072 ]
#**********************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**********************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**********************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0072:C00002----------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1972.0101: End_date= 1972.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  489: DryHrs= 8271: PTOT= 784.30}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       37.30    19.15    12.97     8.15     4.50     2.53     2.00     1.71     1.17    mm/hr
       37.30    38.30    38.90    48.90    54.00    60.70    72.10    82.20    84.20    mm
      19720712 19720712 19720807 19720808 19720808 19720808 19720713 19720714 19720715  date
```

```
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         170      133      122       86       76       60       45       41       31
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         169       96       58       21        5        0        0        0        0
R0072:C00003----------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax=108.88: APIavg= 21.70: APImin=   .00}
#**********************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**********************************************************************************************
R0072:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .385 1972.0807_23:55  136.80 .174     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0072:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .274 1972.0807_23:50  121.97 .156     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0072:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .385 1972.0807_23:55  136.80  n/a     .000
                    +     5.0 02:West-B        14.48     .274 1972.0807_23:50  121.97  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .659 1972.0807_23:50  130.51  n/a     .000
#**********************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**********************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**********************************************************************************************
R0072:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .729 1972.0807_23:40  375.41 .479     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0072:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .573 1972.0807_23:35  375.41 .479     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0072:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .729 1972.0807_23:40  375.41  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .573 1972.0807_23:35  375.41  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15    1.301 1972.0807_23:40  375.41  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   72

***************************************************************************************





 RUN#:COMMAND#
R0073:C00001----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19730101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0073 ]
#**********************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**********************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**********************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0073:C00002----------------------------------------------------------------------------------
   *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1973.0101: End_date= 1973.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  549: DryHrs= 8211: PTOT= 744.90}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       30.00    17.25    12.33     7.10     3.63     1.89     1.28      .96      .96    mm/hr
       30.00    34.50    37.00    42.60    43.60    45.40    46.00    46.00    69.20    mm
      19730611 19730808 19730808 19730808 19730808 19730616 19730616 19730616 19731005  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
```

```
        200      164      143      108       79       61       54       43       37
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        200      102       66       20        4        0        0        0        0
R0073:C00003---------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 78.26: APIavg= 20.56: APImin=   .06}
#*************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************************
R0073:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .322 1973.0808_21:00  101.49 .136     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0073:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .225 1973.0808_20:55   89.43 .120     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0073:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .322 1973.0808_21:00  101.49  n/a     .000
                    +     5.0 02:West-B        14.48     .225 1973.0808_20:55   89.43  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .546 1973.0808_20:55   96.37  n/a     .000
#*************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*************************************************************************************************************
R0073:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .712 1973.0808_20:45  337.66 .453     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0073:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .560 1973.0808_20:40  337.66 .453     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0073:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .712 1973.0808_20:45  337.66  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .560 1973.0808_20:40  337.66  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15    1.270 1973.0808_20:40  337.66  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   73

*********************************************************************************************************






 RUN#:COMMAND#
R0074:C00001---------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19740101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0074 ]
#*************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0074:C00002---------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                       ]
      [Start_date= 1974.0101: End_date= 1974.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  320: DryHrs= 8440: PTOT= 386.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       20.60    15.40    10.37     5.18     2.98     1.63     1.08      .81      .54    mm/hr
       20.60    30.80    31.10    31.10    35.70    39.00    39.00    39.00    39.00    mm
      19740718 19740719 19740719 19740719 19740305 19740305 19740306 19740306 19740307  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        129      105       93       77       63       50       38       33       23
      Number of events with at least the following durations
```

```
       1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        128      66       32       10        3        0        0        0        0
R0074:C00003--------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 52.93: APIavg= 11.36: APImin=   .00}
#************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#************************************************************************************************
R0074:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .124 1974.0719_ 1:45   27.61 .072     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0074:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .084 1974.0719_ 1:40   24.04 .062     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0074:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .124 1974.0719_ 1:45   27.61  n/a     .000
                    +     5.0 02:West-B        14.48     .084 1974.0719_ 1:40   24.04  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .208 1974.0719_ 1:45   26.10  n/a     .000
#************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#************************************************************************************************
R0074:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .459 1974.0719_ 1:30  119.81 .310     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0074:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .360 1974.0719_ 1:25  119.81 .310     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0074:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .459 1974.0719_ 1:30  119.81  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .360 1974.0719_ 1:25  119.81  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .817 1974.0719_ 1:30  119.81  n/a     .000
##############################################################################
# CONTINUOUS RAINFALL DATA
##############################################################################
  ** END OF RUN :   74

******************************************************************************************





 RUN#:COMMAND#
R0075:C00001--------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19750101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0075 ]
#************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date          : 2021/Oct/18
#  Modeller      : J.Burnett, P.Eng.
#  Updated       : 2022/Dec/07 [JB]
#  Updated       : 2022/Dec/13 [LP]
#  Company       : J.F. Sabourin and Associates
#  License #     : 2582634
#************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0075:C00002--------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1975.0101: End_date= 1975.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  344: DryHrs= 8416: PTOT= 535.50}
      Maximum average rainfall intensities over
       1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
      34.80    18.40    12.53     6.32     3.33     1.73     1.15      .87      .62    mm/hr
      34.80    36.80    37.60    37.90    40.00    41.50    41.50    41.80    44.40    mm
      19750708 19750720 19750720 19750720 19750721 19750721 19750721 19750721 19750928  date
      Number of rainfall events per following interevent time
       1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        136     118       99       78       61       49       40       33       25
      Number of events with at least the following durations
       1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        135      70       40       17        1        0        0        0        0
```

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R0075:C00003------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 73.23: APIavg= 15.16: APImin=   .00}
#**************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************
R0075:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .213 1975.0720_17:45   61.11 .114     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0075:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .146 1975.0720_17:40   53.72 .100     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0075:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .213 1975.0720_17:45   61.11  n/a     .000
                    +     5.0 02:West-B        14.48     .146 1975.0720_17:40   53.72  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .359 1975.0720_17:45   57.98  n/a     .000
#**************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************
R0075:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .600 1975.0708_18:00  219.51 .410     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0075:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .480 1975.0708_17:50  219.51 .410     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0075:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .600 1975.0708_18:00  219.51  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .480 1975.0708_17:50  219.51  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15    1.078 1975.0708_17:55  219.51  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   75

***************************************************************************************************






 RUN#:COMMAND#
R0076:C00001------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19760101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0076 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0076:C00002------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1976.0101: End_date= 1976.1230]
      {DT= 60.min: Length= 8064.hrs: WetHrs=  390: DryHrs= 7674: PTOT= 493.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       14.00     8.90     6.43     4.65     2.35     1.39      .97      .99      .80    mm/hr
       14.00    17.80    19.30    27.90    28.20    33.30    35.10    47.60    57.50    mm
      19760828 19760828 19760828 19760828 19760828 19760920 19760520 19760520 19760921  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         164      133      117       89       72       62       46       40       28
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         163       80       47       15        2        0        0        0        0
R0076:C00003------------------------------------------------------------------------------------
     COMPUTE API
```

```
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 59.66: APIavg= 15.35: APImin=   .02}
#**************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************
R0076:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .098 1976.0519_23:20   42.34 .086     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0076:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .065 1976.0519_23:20   36.78 .075     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0076:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .098 1976.0519_23:20   42.34  n/a     .000
                     +    5.0 02:West-B        14.48     .065 1976.0519_23:20   36.78  n/a     .000
                  SUM=    5.0 01:West-Total    34.15     .163 1976.0519_23:20   39.98  n/a     .000
#**************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************
#                 Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************
R0076:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .206 1976.0828_20:30  170.05 .345     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0076:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .161 1976.0828_20:25  170.05 .345     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0076:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .206 1976.0828_20:30  170.05  n/a     .000
                     +    5.0 02:INF-West-B    14.48     .161 1976.0828_20:25  170.05  n/a     .000
                  SUM=    5.0 01:INF-West-T    34.15     .366 1976.0828_20:30  170.05  n/a     .000
##############################################################################
# CONTINUOUS RAINFALL DATA
##############################################################################
  ** END OF RUN :   76

***************************************************************************************************





 RUN#:COMMAND#
R0077:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19770101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0077 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/07 [JB]
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0077:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                      ]
      [Start_date= 1977.0101: End_date= 1977.1231]
      {DT= 60.min: Length= 8016.hrs: WetHrs=  512: DryHrs= 7504: PTOT= 677.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       21.30    15.20    10.40     6.53     3.30     1.66     1.40     1.06      .73    mm/hr
       21.30    30.40    31.20    39.20    39.60    39.80    50.40    51.00    52.40    mm
      19770717 19770717 19770717 19770901 19770902 19770314 19770314 19770314 19770718  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         172      142      126       99       78       63       53       42       30
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         171       88       60       22        5        1        0        0        0
R0077:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 74.80: APIavg= 20.62: APImin=  1.63}
```

```
#*************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************************
R0077:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .208 1977.0901_23:55   80.37 .119     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0077:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .144 1977.0901_23:50   70.59 .104     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0077:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .208 1977.0901_23:55   80.37  n/a     .000
                    +     5.0 02:West-B        14.48     .144 1977.0901_23:50   70.59  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .351 1977.0901_23:55   76.23  n/a     .000
#*************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*************************************************************************************************************
R0077:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .522 1977.0901_23:40  283.86 .419     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0077:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .407 1977.0901_23:35  283.86 .419     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0077:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .522 1977.0901_23:40  283.86  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .407 1977.0901_23:35  283.86  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .928 1977.0901_23:40  283.86  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   77

***************************************************************************************************

 RUN#:COMMAND#
R0078:C00001------------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19780101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0078 ]
#*************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/07 [JB]
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0078:C00002------------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                               ]
      [Start_date= 1978.0101: End_date= 1978.1231]
      {DT= 60.min: Length= 8040.hrs: WetHrs=  409: DryHrs= 7631: PTOT= 641.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       36.00    18.15    12.10     6.05     3.04     1.64     1.13      .87      .58    mm/hr
       36.00    36.30    36.30    36.30    36.50    39.40    40.60    41.60    41.60    mm
      19780618 19780618 19780618 19780618 19780619 19780411 19780412 19780620 19780621  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         154      128      118       97       71       58       51       46       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         154       75       44       18        5        0        0        0        0
R0078:C00003------------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 65.36: APIavg= 19.25: APImin=   .25}
#*************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
```

```
#*****************************************************************************************************
R0078:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .252 1978.0618_18:05   61.75 .096     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0078:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .177 1978.0618_18:00   53.70 .084     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0078:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .252 1978.0618_18:05   61.75  n/a     .000
                    +     5.0 02:West-B        14.48     .177 1978.0618_18:00   53.70  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .428 1978.0618_18:00   58.33  n/a     .000
#*****************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
#                 Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0078:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .647 1978.0618_17:55  269.84 .421     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0078:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .517 1978.0618_17:50  269.84 .421     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0078:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .647 1978.0618_17:55  269.84  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .517 1978.0618_17:50  269.84  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15    1.161 1978.0618_17:55  269.84  n/a     .000
##############################################################################
# CONTINUOUS RAINFALL DATA
##############################################################################
  ** END OF RUN :   78

*******************************************************************************************





 RUN#:COMMAND#
R0079:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19790101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0079 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/07 [JB]
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0079:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                        ]
      [Start_date= 1979.0101: End_date= 1979.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  546: DryHrs= 8214: PTOT= 866.50}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       34.90    22.00    14.67     7.33     5.14     2.63     1.75     1.31      .88    mm/hr
       34.90    44.00    44.00    44.00    61.70    63.00    63.00    63.00    63.00    mm
      19790616 19790616 19790616 19790616 19790914 19790915 19790915 19790915 19790917  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         188      147      129      103       86       60       53       43       36
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         187       97       65       25        6        1        0        0        0
R0079:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 78.42: APIavg= 23.13: APImin=   .13}
#*****************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
R0079:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .350 1979.0616_15:00  159.06 .184     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0079:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .248 1979.0616_14:55  141.55 .163     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0079:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .350 1979.0616_15:00  159.06  n/a     .000
                    +     5.0 02:West-B        14.48     .248 1979.0616_14:55  141.55  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .597 1979.0616_15:00  151.64  n/a     .000
#**************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************************
R0079:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .798 1979.0616_14:50  449.28 .519     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0079:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .635 1979.0616_14:45  449.28 .519     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0079:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .798 1979.0616_14:50  449.28  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .635 1979.0616_14:45  449.28  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15    1.430 1979.0616_14:45  449.28  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   79
*****************************************************************************************************
 RUN#:COMMAND#
R0080:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19800101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0080 ]
#**************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0080:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                         ]
      [Start_date= 1980.0101: End_date= 1980.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  427: DryHrs= 8333: PTOT= 622.00}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       15.00     9.20     6.50     4.72     3.57     1.97     1.35     1.01      .86    mm/hr
       15.00    18.40    19.50    28.30    42.80    47.20    48.60    48.60    62.00    mm
      19800830 19800830 19801025 19801025 19801026 19801026 19801026 19801027 19800902  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         151      125      112       93       79       62       49       44       28
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         150       85       54       16        4        0        0        0        0
R0080:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 68.72: APIavg= 17.50: APImin=   .06}
#**************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************************
R0080:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .118 1980.1026_ 0:35   66.79 .107     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
```

```
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0080:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .080 1980.1026_ 0:30   58.50 .094     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0080:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .118 1980.1026_ 0:35   66.79  n/a     .000
                    +     5.0 02:West-B        14.48     .080 1980.1026_ 0:30   58.50  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .198 1980.1026_ 0:30   63.27  n/a     .000
#*****************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0080:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .253 1980.1025_17:45  254.15 .409     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0080:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .194 1980.1025_17:35  254.15 .409     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0080:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .253 1980.1025_17:45  254.15  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .194 1980.1025_17:35  254.15  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .446 1980.1025_17:40  254.15  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :   80

*******************************************************************************************************






 RUN#:COMMAND#
R0081:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19810101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0081 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0081:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                             ]
      [Start_date= 1981.0101: End_date= 1981.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  641: DryHrs= 8119: PTOT= 936.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       35.30    31.85    26.20    18.15     9.27     4.83     3.22     2.41     1.62    mm/hr
       35.30    63.70    78.60   108.90   111.30   115.90   115.90   115.90   116.70    mm
      19810805 19810805 19810805 19810805 19810805 19810805 19810806 19810806 19810805  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         226      171      136      109       83       68       59       47       30
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         225      128       79       28        7        0        0        0        0
R0081:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax=123.49: APIavg= 25.69: APImin=   .26}
#*****************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
R0081:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67    1.076 1981.0805_ 3:05  196.98 .210     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
```

```
R0081:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .781 1981.0805_ 3:00  179.64 .192     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0081:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67    1.076 1981.0805_ 3:05  196.98  n/a     .000
                   +      5.0 02:West-B        14.48     .781 1981.0805_ 3:00  179.64  n/a     .000
                SUM=      5.0 01:West-Total    34.15    1.855 1981.0805_ 3:05  189.63  n/a     .000
#*****************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0081:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67    1.402 1981.0805_ 2:40  459.70 .491     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0081:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48    1.079 1981.0805_ 2:35  459.70 .491     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0081:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67    1.402 1981.0805_ 2:40  459.70  n/a     .000
                   +      5.0 02:INF-West-B    14.48    1.079 1981.0805_ 2:35  459.70  n/a     .000
                SUM=      5.0 01:INF-West-T    34.15    2.479 1981.0805_ 2:35  459.70  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   81

*******************************************************************************************





 RUN#:COMMAND#
R0082:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19820101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0082 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0082:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                           ]
      [Start_date= 1982.0101: End_date= 1982.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  436: DryHrs= 8324: PTOT= 596.10}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       19.80    10.75     7.60     5.83     3.36     1.68     1.12      .96      .80     mm/hr
       19.80    21.50    22.80    35.00    40.30    40.30    40.30    46.30    57.30     mm
      19820801 19820901 19820825 19820825 19820825 19820826 19820826 19820825 19820825  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         134      110       98       78       66       57       48       41       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         133       81       58       18        4        1        1        0        0
R0082:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 56.66: APIavg= 16.78: APImin=   .03}
#*****************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
R0082:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .154 1982.0825_12:25   54.10 .091     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0082:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .102 1982.0825_12:20   47.17 .079     .000
```

```
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0082:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .154 1982.0825_12:25   54.10  n/a     .000
                     +    5.0 02:West-B        14.48     .102 1982.0825_12:20   47.17  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .255 1982.0825_12:25   51.16  n/a     .000
#**************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************
R0082:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .402 1982.0825_11:40  228.69 .384     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0082:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .307 1982.0825_11:35  228.69 .384     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0082:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .402 1982.0825_11:40  228.69  n/a     .000
                     +    5.0 02:INF-West-B    14.48     .307 1982.0825_11:35  228.69  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .709 1982.0825_11:40  228.69  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   82

*******************************************************************************************


 RUN#:COMMAND#
R0083:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19830101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0083 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0083:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                        ]
      [Start_date= 1983.0101: End_date= 1983.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  462: DryHrs= 8298: PTOT= 587.50}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       10.40     9.70     7.53     5.43     3.18     2.36     1.68     1.32      .92    mm/hr
       10.40    19.40    22.60    32.60    38.20    56.70    60.40    63.20    66.00    mm
      19831004 19830921 19830921 19831005 19831005 19831005 19831005 19831006 19831008  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         143      115      103       85       70       55       50       45       35
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         142       87       56       28        5        0        0        0        0
R0083:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 79.86: APIavg= 16.57: APImin=   .05}
#**************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************
R0083:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .196 1983.1005_16:40   58.94 .100     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0083:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .133 1983.1005_16:30   51.78 .088     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
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      [InterEventTime=  12.00]
R0083:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .196 1983.1005_16:40   58.94  n/a     .000
                    +     5.0 02:West-B        14.48     .133 1983.1005_16:30   51.78  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .328 1983.1005_16:35   55.90  n/a     .000
#*************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*************************************************************************************************
R0083:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .365 1983.1005_16:10  217.30 .370     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0083:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .280 1983.1005_16:00  217.30 .370     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0083:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .365 1983.1005_16:10  217.30  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .280 1983.1005_16:00  217.30  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .644 1983.1005_16:05  217.30  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   83

*******************************************************************************************





 RUN#:COMMAND#
R0084:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19840101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0084 ]
#*************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0084:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1984.0101: End_date= 1984.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  308: DryHrs= 8452: PTOT= 459.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       17.80     9.70     7.57     4.33     3.01     1.85     1.58     1.19     1.00    mm/hr
       17.80    19.40    22.70    26.00    36.10    44.30    57.00    57.00    72.20    mm
      19840812 19840812 19840812 19840806 19840812 19840813 19840813 19840814 19840813  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          98       80       75       63       55       48       40       34       26
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          97       58       39       11        3        1        0        0        0
R0084:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 86.83: APIavg= 13.22: APImin=   .00}
#*************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************
R0084:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .156 1984.0813_ 7:20   56.90 .124     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0084:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .111 1984.0813_ 7:10   49.92 .109     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0084:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

```
    ADD HYD               5.0 02:West-A        19.67     .156 1984.0813_ 7:20   56.90  n/a     .000
                    +     5.0 02:West-B        14.48     .111 1984.0813_ 7:10   49.92  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .267 1984.0813_ 7:15   53.94  n/a     .000
#*********************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*********************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*********************************************************************************************************
R0084:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .357 1984.0812_ 7:55  207.21 .451     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0084:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .285 1984.0812_ 7:45  207.21 .451     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0084:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .357 1984.0812_ 7:55  207.21  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .285 1984.0812_ 7:45  207.21  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .641 1984.0812_ 7:50  207.21  n/a     .000
##############################################################################
# CONTINUOUS RAINFALL DATA
##############################################################################
  ** END OF RUN :   84

***************************************************************************************************






 RUN#:COMMAND#
R0085:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19850101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0085 ]
#*********************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*********************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/07 [JB]
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*********************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0085:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1985.0101: End_date= 1985.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  354: DryHrs= 8406: PTOT= 559.90}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       19.00    13.60    11.73     6.60     3.30     1.65     1.11      .89      .60    mm/hr
       19.00    27.20    35.20    39.60    39.60    39.60    40.10    42.80    43.40    mm
      19850716 19850617 19850617 19850618 19850618 19850618 19850618 19850827 19850827  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         108       88       84       74       69       56       49       43       32
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         107       70       43       13        4        1        0        0        0
R0085:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 57.29: APIavg= 15.86: APImin=   .20}
#*********************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*********************************************************************************************************
R0085:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .185 1985.0618_ 0:45   60.37 .108     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0085:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .125 1985.0618_ 0:35   52.48 .094     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0085:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .185 1985.0618_ 0:45   60.37  n/a     .000
                    +     5.0 02:West-B        14.48     .125 1985.0618_ 0:35   52.48  n/a     .000
```

```
                 SUM=     5.0 01:West-Total    34.15     .310 1985.0618_ 0:40   57.02  n/a     .000
#*****************************************************************************************************
#                   Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
#                   Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0085:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .499 1985.0618_ 0:15  262.29 .468     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0085:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .384 1985.0618_ 0:10  262.29 .468     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0085:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .499 1985.0618_ 0:15  262.29  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .384 1985.0618_ 0:10  262.29  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .881 1985.0618_ 0:15  262.29  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   85

*********************************************************************************************






 RUN#:COMMAND#
R0086:C00001-------------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19860101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0086 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/07 [JB]
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0086:C00002-------------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                            ]
      [Start_date= 1986.0101: End_date= 1986.1231]
      {DT= 60.min: Length= 8040.hrs: WetHrs=  520: DryHrs= 7520: PTOT= 849.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       18.30    17.80    13.57     7.07     4.84     2.89     2.42     1.85     1.31    mm/hr
       18.30    35.60    40.70    42.40    58.10    69.30    87.00    88.60    94.40    mm
      19860729 19860729 19860729 19860729 19860912 19860912 19860912 19860912 19860913  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         178      144      131      104       80       63       53       48       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         177      104       76       24        2        0        0        0        0
R0086:C00003-------------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax=102.23: APIavg= 25.30: APImin=   .17}
#*****************************************************************************************************
#                   Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
R0086:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .363 1986.0911_23:45  163.15 .192     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0086:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .258 1986.0911_23:40  146.75 .173     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0086:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .363 1986.0911_23:45  163.15  n/a     .000
                    +     5.0 02:West-B        14.48     .258 1986.0911_23:40  146.75  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .621 1986.0911_23:45  156.19  n/a     .000
#*****************************************************************************************************
```

```
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*********************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*********************************************************************************************************
R0086:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .630 1986.0729_15:50  418.06 .492     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0086:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .491 1986.0729_15:40  418.06 .492     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0086:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .630 1986.0729_15:50  418.05  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .491 1986.0729_15:40  418.05  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15    1.119 1986.0729_15:45  418.06  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   86

*****************************************************************************************************






 RUN#:COMMAND#
R0087:C00001-----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19870101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0087 ]
#*********************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*********************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*********************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0087:C00002-----------------------------------------------------------------------------------------
   *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1987.0101: End_date= 1987.1231]
      {DT= 60.min: Length= 7344.hrs: WetHrs=  492: DryHrs= 6852: PTOT= 640.10}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       20.00    13.90    14.03     7.05     4.87     2.46     1.84     1.40      .93    mm/hr
       20.00    27.80    42.10    42.30    58.40    59.00    66.40    67.00    67.00    mm
      19870724 19870724 19870724 19870724 19870724 19870725 19870725 19870726 19870726  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         180      147      128       93       74       55       49       41       28
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         179       94       60       20        3        0        0        0        0
R0087:C00003-----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 75.76: APIavg= 21.41: APImin=  1.18}
#*********************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*********************************************************************************************************
R0087:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .264 1987.0724_15:45   77.04 .120     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0087:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .182 1987.0724_15:40   68.56 .107     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0087:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .264 1987.0724_15:45   77.04  n/a     .000
                    +     5.0 02:West-B        14.48     .182 1987.0724_15:40   68.56  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .446 1987.0724_15:45   73.44  n/a     .000
#*********************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*********************************************************************************************************
```

```
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#************************************************************************************************************
R0087:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .567 1987.0724_15:25  240.27 .375     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0087:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .433 1987.0724_15:20  240.27 .375     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0087:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .567 1987.0724_15:25  240.27  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .433 1987.0724_15:20  240.27  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15    1.000 1987.0724_15:25  240.27  n/a     .000
#############################################################################
# CONTINUOUS RAINFALL DATA
#############################################################################
  ** END OF RUN :   87

***************************************************************************************************





 RUN#:COMMAND#
R0088:C00001--------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19880101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0088 ]
#************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0088:C00002--------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                        ]
      [Start_date= 1988.0101: End_date= 1988.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  487: DryHrs= 8273: PTOT= 643.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       25.50    18.20    12.77     7.37     3.78     1.91     1.27      .95      .94    mm/hr
       25.50    36.40    38.30    44.20    45.40    45.80    45.80    45.80    67.40    mm
      19880917 19880726 19880625 19880625 19880625 19880625 19880625 19880626 19880625  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         165      130      109       80       66       56       49       42       26
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         164      102       71       20        5        0        0        0        0
R0088:C00003--------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 66.04: APIavg= 18.06: APImin=   .03}
#************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#************************************************************************************************************
R0088:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .323 1988.0625_13:50   75.66 .118     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0088:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .226 1988.0625_13:45   66.49 .103     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0088:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .323 1988.0625_13:50   75.66  n/a     .000
                    +     5.0 02:West-B        14.48     .226 1988.0625_13:45   66.49  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .548 1988.0625_13:45   71.77  n/a     .000
#************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#************************************************************************************************************
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R0088:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .676 1988.0625_13:35  255.71 .397     .000
     [CN=100.0: N= 3.00: Tp= 1.29]
     [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
     [InterEventTime=  12.00]
R0088:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .526 1988.0625_13:30  255.71 .397     .000
     [CN=100.0: N= 3.00: Tp= 1.18]
     [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
     [InterEventTime=  12.00]
R0088:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:INF-West-A    19.67     .676 1988.0625_13:35  255.71  n/a     .000
                   +     5.0 02:INF-West-B    14.48     .526 1988.0625_13:30  255.71  n/a     .000
                SUM=     5.0 01:INF-West-T    34.15    1.202 1988.0625_13:30  255.71  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   88

***************************************************************************************************





 RUN#:COMMAND#
R0089:C00001---------------------------------------------------------------------------------------
    START
     [TZERO =    .00 hrs on 19890101]
     [METOUT=   2    (1=imperial, 2=metric output)]
     [NSTORM=   0 ]
     [NRUN  = 0089 ]
#**************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0089:C00002---------------------------------------------------------------------------------------
  *  READ AES DATA
     [Filename  = YOW_1967_2007.123                                          ]
     [Start_date= 1989.0101: End_date= 1989.1231]
     {DT= 60.min: Length= 8040.hrs: WetHrs=  422: DryHrs= 7618: PTOT= 523.20}
     Maximum average rainfall intensities over
       1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
      22.70    12.60     8.93     5.75     3.03     1.69     1.14      .86      .59    mm/hr
      22.70    25.20    26.80    34.50    36.30    40.60    40.90    41.30    42.50    mm
     19890727 19890727 19890727 19890727 19890727 19891020 19891021 19891021 19891022  date
     Number of rainfall events per following interevent time
       1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        151      125      108       89       67       53       42       37       29
     Number of events with at least the following durations
       1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        150       81       52       19        5        0        0        0        0
R0089:C00003---------------------------------------------------------------------------------------
    COMPUTE API
     [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
     {APImax= 55.10: APIavg= 16.03: APImin=   .02}
#**************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************************
R0089:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD     5.0 01:West-A        19.67     .141 1989.0727_16:15   47.58 .091     .000
     [CN= 76.0: N= 3.00: Tp= 1.29]
     [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
     [InterEventTime=  12.00]
R0089:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD     5.0 01:West-B        14.48     .095 1989.0727_16:10   41.43 .079     .000
     [CN= 72.0: N= 3.00: Tp= 1.18]
     [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
     [InterEventTime=  12.00]
R0089:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:West-A        19.67     .141 1989.0727_16:15   47.58  n/a     .000
                   +     5.0 02:West-B        14.48     .095 1989.0727_16:10   41.43  n/a     .000
                SUM=     5.0 01:West-Total    34.15     .236 1989.0727_16:15   44.97  n/a     .000
#**************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#**************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************************
R0089:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .477 1989.0727_16:00  197.69 .378     .000
```

```
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0089:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .377 1989.0727_15:55  197.69 .378     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0089:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .477 1989.0727_16:00  197.69  n/a     .000
                   +      5.0 02:INF-West-B    14.48     .377 1989.0727_15:55  197.69  n/a     .000
                SUM=      5.0 01:INF-West-T    34.15     .853 1989.0727_15:55  197.69  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   89

****************************************************************************************************





 RUN#:COMMAND#
R0090:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19900101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0090 ]
#***************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0090:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1990.0101: End_date= 1990.1231]
      {DT= 60.min: Length= 7344.hrs: WetHrs=  618: DryHrs= 6726: PTOT= 727.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       20.60    12.25     9.60     5.58     4.43     2.25     1.50     1.23     1.06    mm/hr
       20.60    24.50    28.80    33.50    53.20    54.00    54.00    59.00    76.60    mm
      19900720 19900720 19900828 19900828 19900720 19900720 19900720 19900722 19900723  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         204      156      141      107       84       66       56       47       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         203      116       75       31        6        1        0        0        0
R0090:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 75.10: APIavg= 23.47: APImin=  3.10}
#***************************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************************
R0090:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .265 1990.0720_14:15   96.52 .133     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0090:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .185 1990.0720_14:10   85.06 .117     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0090:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .265 1990.0720_14:15   96.52  n/a     .000
                   +      5.0 02:West-B        14.48     .185 1990.0720_14:10   85.06  n/a     .000
                SUM=      5.0 01:West-Total    34.15     .450 1990.0720_14:10   91.66  n/a     .000
#***************************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************************
#                 Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************************
R0090:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .427 1990.0720_ 6:00  311.89 .429     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
```

```
       [InterEventTime=  12.00]
R0090:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .337 1990.0720_ 5:55  311.89 .429     .000
       [CN=100.0: N= 3.00: Tp= 1.18]
       [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
       [InterEventTime=  12.00]
R0090:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .427 1990.0720_ 6:00  311.89  n/a     .000
                     +    5.0 02:INF-West-B    14.48     .337 1990.0720_ 5:55  311.89  n/a     .000
                  SUM=    5.0 01:INF-West-T    34.15     .763 1990.0720_ 6:00  311.89  n/a     .000
###########################################################################
# CONTINUOUS RAINFALL DATA
###########################################################################
  ** END OF RUN :   90

*******************************************************************************************





 RUN#:COMMAND#
R0091:C00001----------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on 19910101]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  = 0091 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0091:C00002----------------------------------------------------------------------------------
  *  READ AES DATA
       [Filename  = YOW_1967_2007.123                                           ]
       [Start_date= 1991.0101: End_date= 1991.1231]
       {DT= 60.min: Length= 8040.hrs: WetHrs=  486: DryHrs= 7554: PTOT= 556.00}
       Maximum average rainfall intensities over
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        11.30     9.90     6.87     4.10     2.53     1.72     1.28     1.08      .79    mm/hr
        11.30    19.80    20.60    24.60    30.40    41.20    46.00    51.60    57.00    mm
       19910409 19910409 19910409 19910409 19911016 19910422 19910410 19910410 19910423  date
       Number of rainfall events per following interevent time
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          165      137      127      102       80       63       52       45       38
       Number of events with at least the following durations
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          164       89       56       21        6        1        0        0        0
R0091:C00003----------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
       {APImax= 72.80: APIavg= 16.88: APImin=   .26}
#*****************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
R0091:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .120 1991.0410_ 4:10   52.68 .095     .000
       [CN= 76.0: N= 3.00: Tp= 1.29]
       [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
       [InterEventTime=  12.00]
R0091:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .084 1991.0410_ 4:00   46.13 .083     .000
       [CN= 72.0: N= 3.00: Tp= 1.18]
       [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
       [InterEventTime=  12.00]
R0091:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .120 1991.0410_ 4:10   52.68  n/a     .000
                     +    5.0 02:West-B        14.48     .084 1991.0410_ 4:00   46.13  n/a     .000
                  SUM=    5.0 01:West-Total    34.15     .204 1991.0410_ 4:05   49.90  n/a     .000
#*****************************************************************************************************
#                 Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
#                 Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0091:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .267 1991.0409_ 1:50  197.89 .356     .000
       [CN=100.0: N= 3.00: Tp= 1.29]
       [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
       [InterEventTime=  12.00]
R0091:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .211 1991.0409_ 1:45  197.89 .356     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0091:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .267 1991.0409_ 1:50  197.89  n/a     .000
                   +      5.0 02:INF-West-B    14.48     .211 1991.0409_ 1:45  197.89  n/a     .000
                SUM=      5.0 01:INF-West-T    34.15     .478 1991.0409_ 1:50  197.89  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   91

****************************************************************************************************





 RUN#:COMMAND#
R0092:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19920101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0092 ]
#***************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/07 [JB]
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#***************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0092:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1992.0101: End_date= 1992.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  551: DryHrs= 8209: PTOT= 732.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       31.50    18.00    13.30     7.22     4.14     2.26     1.51     1.51     1.02    mm/hr
       31.50    36.00    39.90    43.30    49.70    54.20    54.20    72.60    73.60    mm
      19920804 19920804 19920804 19920804 19920717 19920718 19920718 19920719 19920720  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         190      151      132      100       84       69       55       47       38
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         189      109       70       22        5        1        0        0        0
R0092:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 97.62: APIavg= 20.33: APImin=  1.07}
#***************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************************
R0092:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .416 1992.0717_19:25  106.69 .146     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0092:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .292 1992.0717_19:20   94.75 .129     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0092:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .416 1992.0717_19:25  106.69  n/a     .000
                   +      5.0 02:West-B        14.48     .292 1992.0717_19:20   94.75  n/a     .000
                SUM=      5.0 01:West-Total    34.15     .708 1992.0717_19:25  101.63  n/a     .000
#***************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************************
R0092:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .707 1992.0804_15:00  326.37 .445     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0092:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .559 1992.0804_14:50  326.37 .445     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
```

```
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0092:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .707 1992.0804_15:00  326.37  n/a     .000
                   +      5.0 02:INF-West-B    14.48     .559 1992.0804_14:50  326.37  n/a     .000
                SUM=      5.0 01:INF-West-T    34.15    1.264 1992.0804_14:55  326.37  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :   92

***************************************************************************************************





 RUN#:COMMAND#
R0093:C00001---------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19930101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0093 ]
#************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0093:C00002---------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1993.0101: End_date= 1993.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  585: DryHrs= 8175: PTOT= 721.30}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       12.60     6.60     4.83     3.72     3.58     2.31     1.61     1.21      .81    mm/hr
       12.60    13.20    14.50    22.30    43.00    55.50    58.10    58.10    58.10    mm
      19930703 19930703 19931127 19931128 19931128 19931128 19931128 19931128 19931129  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         191      154      137      111       91       73       57       48       34
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         190      110       66       27        7        2        0        0        0
R0093:C00003---------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 66.56: APIavg= 20.01: APImin=   .11}
#************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#************************************************************************************************************
R0093:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .153 1993.1128_ 7:40   71.45 .099     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0093:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .105 1993.1128_ 7:35   62.59 .087     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0093:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .153 1993.1128_ 7:40   71.45  n/a     .000
                   +      5.0 02:West-B        14.48     .105 1993.1128_ 7:35   62.59  n/a     .000
                SUM=      5.0 01:West-Total    34.15     .258 1993.1128_ 7:40   67.69  n/a     .000
#************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#************************************************************************************************************
R0093:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .236 1993.1128_ 7:25  264.26 .366     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0093:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .177 1993.1128_ 7:20  264.26 .366     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
```

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R0093:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .236 1993.1128_ 7:25  264.26  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .177 1993.1128_ 7:20  264.26  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .413 1993.1128_ 7:25  264.26  n/a     .000
##############################################################################
# CONTINUOUS RAINFALL DATA
##############################################################################
  ** END OF RUN :   93

*****************************************************************************************************






 RUN#:COMMAND#
R0094:C00001------------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19940101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0094 ]
#*******************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*******************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0094:C00002------------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1994.0101: End_date= 1994.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  342: DryHrs= 8418: PTOT= 540.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       22.60    11.90     8.43     5.42     2.92     1.79     1.19      .89     1.15    mm/hr
       22.60    23.80    25.30    32.50    35.00    42.90    42.90    42.90    82.60    mm
      19940629 19940629 19940627 19940625 19940625 19940625 19940626 19940626 19940627  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         138      115      101       79       62       48       39       34       26
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         137       72       48       12        1        0        0        0        0
R0094:C00003------------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 97.84: APIavg= 15.35: APImin=   .02}
#*******************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*******************************************************************************************************
R0094:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .153 1994.0627_11:40   67.89 .126     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0094:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .103 1994.0627_11:35   59.78 .111     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0094:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .153 1994.0627_11:40   67.89  n/a     .000
                    +     5.0 02:West-B        14.48     .103 1994.0627_11:35   59.78  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .256 1994.0627_11:35   64.45  n/a     .000
#*******************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*******************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*******************************************************************************************************
R0094:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .383 1994.0627_11:05  227.40 .421     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0094:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .299 1994.0629_13:50  227.40 .421     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0094:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .383 1994.0627_11:05  227.40  n/a     .000
```

```
                     +     5.0 02:INF-West-B    14.48     .299 1994.0629_13:50  227.40  n/a     .000
                  SUM=     5.0 01:INF-West-T    34.15     .675 1994.0627_11:00  227.40  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   94

****************************************************************************************************





 RUN#:COMMAND#
R0095:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19950101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0095 ]
#***************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0095:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                            ]
      [Start_date= 1995.0101: End_date= 1995.1231]
      {DT= 60.min: Length= 8040.hrs: WetHrs=  332: DryHrs= 7708: PTOT= 538.50}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       16.90    13.25    11.33     8.98     6.35     3.48     2.95     2.21     1.48    mm/hr
       16.90    26.50    34.00    53.90    76.20    83.40   106.20   106.20   106.20    mm
      19950603 19950603 19951006 19951006 19951006 19951006 19951007 19951007 19951008  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          91       73       65       55       47       41       34       31       25
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          90       54       35       16        7        1        0        0        0
R0095:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 99.57: APIavg= 16.58: APImin=    .00}
#***************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************************
R0095:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      5.0 01:West-A        19.67     .427 1995.0603_ 9:35  172.16 .320     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0095:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      5.0 01:West-B        14.48     .310 1995.0603_ 9:30  159.14 .296     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0095:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                5.0 02:West-A        19.67     .427 1995.0603_ 9:35  172.16  n/a     .000
                     +     5.0 02:West-B        14.48     .310 1995.0603_ 9:30  159.14  n/a     .000
                  SUM=     5.0 01:West-Total    34.15     .737 1995.0603_ 9:35  166.64  n/a     .000
#***************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************************
R0095:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      5.0 01:INF-West-A    19.67     .615 1995.1006_ 6:15  327.35 .608     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0095:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      5.0 01:INF-West-B    14.48     .462 1995.1006_ 6:05  327.35 .608     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0095:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                5.0 02:INF-West-A    19.67     .615 1995.1006_ 6:15  327.35  n/a     .000
                     +     5.0 02:INF-West-B    14.48     .462 1995.1006_ 6:05  327.35  n/a     .000
                  SUM=     5.0 01:INF-West-T    34.15    1.076 1995.1006_ 6:10  327.35  n/a     .000
```

```
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :   95

***************************************************************************************************





 RUN#:COMMAND#
R0096:C00001---------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19960101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0096 ]
#*************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0096:C00002---------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1996.0101: End_date= 1996.1230]
      {DT= 60.min: Length= 6552.hrs: WetHrs=  387: DryHrs= 6165: PTOT= 512.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       18.50    13.55     9.03     5.42     2.93     1.84     1.32     1.02      .70    mm/hr
       18.50    27.10    27.10    32.50    35.10    44.10    47.50    49.00    50.30    mm
      19960731 19960731 19960731 19960731 19960731 19961109 19961109 19961109 19961109  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         132      104       93       71       59       43       36       31       24
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         131       72       50       19        2        1        0        0        0
R0096:C00003---------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 63.22: APIavg= 19.39: APImin=   .71}
#*************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************************
R0096:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .156 1996.0731_16:40   53.26 .104     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0096:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .106 1996.0731_16:35   46.54 .091     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0096:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .156 1996.0731_16:40   53.26  n/a     .000
                   +      5.0 02:West-B        14.48     .106 1996.0731_16:35   46.54  n/a     .000
                SUM=      5.0 01:West-Total    34.15     .261 1996.0731_16:35   50.41  n/a     .000
#*************************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*************************************************************************************************************
R0096:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .438 1996.0731_16:25  195.06 .381     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0096:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .342 1996.0731_16:20  195.06 .381     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0096:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .438 1996.0731_16:25  195.06  n/a     .000
                   +      5.0 02:INF-West-B    14.48     .342 1996.0731_16:20  195.06  n/a     .000
                SUM=      5.0 01:INF-West-T    34.15     .778 1996.0731_16:25  195.06  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
```

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################################################################################
  ** END OF RUN :   96

*****************************************************************************************************






 RUN#:COMMAND#
R0097:C00001------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19970101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0097 ]
#***********************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***********************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***********************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0097:C00002------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1997.0101: End_date= 1997.1231]
      {DT= 60.min: Length= 8040.hrs: WetHrs=  379: DryHrs= 7661: PTOT= 433.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       12.50     7.60     5.67     4.43     2.91     1.68     1.12      .84      .63    mm/hr
       12.50    15.20    17.00    26.60    34.90    40.40    40.40    40.40    45.30    mm
      19970622 19970622 19970622 19970221 19970222 19970222 19970222 19970222 19970222  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         113       92       83       67       61       55       48       43       30
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         112       70       46       20        4        0        0        0        0
R0097:C00003------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 50.00: APIavg= 13.66: APImin=   .27}
#***********************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***********************************************************************************************************
R0097:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .093 1997.0221_21:45   32.31 .075     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0097:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .062 1997.0221_21:40   27.92 .064     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0097:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .093 1997.0221_21:45   32.31  n/a     .000
                    +     5.0 02:West-B        14.48     .062 1997.0221_21:40   27.92  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .155 1997.0221_21:40   30.45  n/a     .000
#***********************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***********************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#***********************************************************************************************************
R0097:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .272 1997.0221_21:20  161.58 .373     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0097:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .204 1997.0221_21:20  161.58 .373     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0097:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .272 1997.0221_21:20  161.58  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .204 1997.0221_21:20  161.58  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .476 1997.0221_21:20  161.58  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   97
```

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*****************************************************************************************




 RUN#:COMMAND#
R0098:C00001----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19980101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0098 ]
#*********************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*********************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*********************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0098:C00002----------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                           ]
      [Start_date= 1998.0101: End_date= 1998.1231]
      {DT= 60.min: Length= 5088.hrs: WetHrs=  291: DryHrs= 4797: PTOT= 440.30}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       15.80     8.90     7.60     4.00     2.54     1.82     1.27      .95      .76    mm/hr
       15.80    17.80    22.80    24.00    30.50    43.60    45.80    45.80    54.60    mm
      19980716 19980627 19980927 19980927 19980927 19980927 19980928 19980928 19980615  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         126      104       95       78       63       42       37       32       21
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         125       64       43        8        1        0        0        0        0
R0098:C00003----------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 57.22: APIavg= 21.28: APImin=  1.69}
#*********************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*********************************************************************************************************
R0098:C00004-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .099 1998.0927_15:15   37.63 .085     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0098:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .069 1998.0927_15:10   32.64 .074     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0098:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .099 1998.0927_15:15   37.63  n/a     .000
                     +    5.0 02:West-B        14.48     .069 1998.0927_15:10   32.64  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .167 1998.0927_15:10   35.52  n/a     .000
#*********************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*********************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*********************************************************************************************************
R0098:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .285 1998.0627_ 2:00  163.10 .370     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0098:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .226 1998.0627_ 1:55  163.10 .370     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0098:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .285 1998.0627_ 2:00  163.11  n/a     .000
                     +    5.0 02:INF-West-B    14.48     .226 1998.0627_ 1:55  163.10  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .509 1998.0627_ 1:55  163.10  n/a     .000
##############################################################################
# CONTINUOUS RAINFALL DATA
##############################################################################
  ** END OF RUN :   98

*****************************************************************************************
```

```
 RUN#:COMMAND#
R0099:C00001----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19990101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0099 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/07 [JB]
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0099:C00002----------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                            ]
      [Start_date= 1999.0101: End_date= 1999.1231]
      {DT= 60.min: Length= 4440.hrs: WetHrs=  247: DryHrs= 4193: PTOT= 424.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       17.50    10.10     9.03     6.57     3.31     1.65     1.45     1.22      .97    mm/hr
       17.50    20.20    27.10    39.40    39.70    39.70    52.20    58.60    69.50    mm
      19990717 19990717 19990906 19990906 19990906 19990906 19990907 19990908 19990908  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         102       80       70       63       56       39       31       28       18
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         101       57       31       10        1        0        0        0        0
R0099:C00003----------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 69.51: APIavg= 23.97: APImin=  1.93}
#***************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************
R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .141 1999.0906_10:20   38.58 .091     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .093 1999.0906_10:15   33.50 .079     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .141 1999.0906_10:20   38.58  n/a     .000
                    +     5.0 02:West-B        14.48     .093 1999.0906_10:15   33.50  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .234 1999.0906_10:20   36.42  n/a     .000
#***************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************
R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .419 1999.0906_ 9:15  171.71 .405     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .319 1999.0906_ 9:10  171.71 .405     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .419 1999.0906_ 9:15  171.71  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .319 1999.0906_ 9:10  171.71  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .737 1999.0906_ 9:15  171.71  n/a     .000
##########################################################################
# CONTINUOUS RAINFALL DATA
##########################################################################
  ** END OF RUN :    99

*****************************************************************************************
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```
 RUN#:COMMAND#
R0100:C00001----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 20000101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0100 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/07 [JB]
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0100:C00002----------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                           ]
      [Start_date= 2000.0101: End_date= 2000.1230]
      {DT= 60.min: Length= 5160.hrs: WetHrs=  401: DryHrs= 4759: PTOT= 535.90}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       14.70     9.60     8.03     6.43     3.89     1.95     1.30     1.03      .84    mm/hr
       14.70    19.20    24.10    38.60    46.70    46.70    46.80    49.30    60.40    mm
      20000625 20000625 20000625 20000625 20000625 20000625 20000626 20000510 20000511  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         156      125      110       86       67       46       34       30       23
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         155       82       49       16        2        0        0        0        0
R0100:C00003----------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 76.65: APIavg= 25.66: APImin=  5.70}
#*****************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
R0100:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .291 2000.0625_10:50   63.91 .119     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0100:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .205 2000.0625_10:45   56.28 .105     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0100:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .291 2000.0625_10:50   63.91  n/a     .000
                    +     5.0 02:West-B        14.48     .205 2000.0625_10:45   56.28  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .496 2000.0625_10:45   60.67  n/a     .000
#*****************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0100:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .460 2000.0625_10:35  214.65 .401     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0100:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .353 2000.0625_10:35  214.65 .401     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0100:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .460 2000.0625_10:35  214.65  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .353 2000.0625_10:35  214.65  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .813 2000.0625_10:35  214.65  n/a     .000
##########################################################################
# CONTINUOUS RAINFALL DATA
##########################################################################
  ** END OF RUN :  101

*******************************************************************************************
```

```

 RUN#:COMMAND#
R0102:C00001----------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on 20020101]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  = 0102 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/07 [JB]
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0102:C00002----------------------------------------------------------------------------------------
   *  READ AES DATA
       [Filename  = YOW_1967_2007.123                                          ]
       [Start_date= 2002.0101: End_date= 2002.1231]
       {DT= 60.min: Length= 5088.hrs: WetHrs=  304: DryHrs= 4784: PTOT= 551.50}
       Maximum average rainfall intensities over
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        45.00    26.75    18.40     9.48     4.74     2.48     2.08     1.56     1.04    mm/hr
        45.00    53.50    55.20    56.90    56.90    59.50    74.90    74.90    74.90    mm
       20020627 20020627 20020627 20020627 20020627 20020627 20020627 20020628 20020629  date
       Number of rainfall events per following interevent time
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          100       83       78       56       47       41       36       34       25
       Number of events with at least the following durations
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          100       59       33       13        5        0        0        0        0
R0102:C00003----------------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
       {APImax=114.06: APIavg= 26.37: APImin=  4.40}
#***************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************
R0102:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     5.0 01:West-A        19.67     .618 2002.0627_15:00  114.49 .208     .000
       [CN= 76.0: N= 3.00: Tp= 1.29]
       [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
       [InterEventTime=  12.00]
R0102:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     5.0 01:West-B        14.48     .449 2002.0627_14:55  103.15 .187     .000
       [CN= 72.0: N= 3.00: Tp= 1.18]
       [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
       [InterEventTime=  12.00]
R0102:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:West-A        19.67     .618 2002.0627_15:00  114.49  n/a     .000
                     +     5.0 02:West-B        14.48     .449 2002.0627_14:55  103.15  n/a     .000
                  SUM=     5.0 01:West-Total    34.15    1.064 2002.0627_15:00  109.69  n/a     .000
#***************************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#***************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************
R0102:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67    1.037 2002.0627_14:50  294.04 .533     .000
       [CN=100.0: N= 3.00: Tp= 1.29]
       [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
       [InterEventTime=  12.00]
R0102:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .824 2002.0627_14:45  294.04 .533     .000
       [CN=100.0: N= 3.00: Tp= 1.18]
       [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
       [InterEventTime=  12.00]
R0102:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:INF-West-A    19.67    1.037 2002.0627_14:50  294.04  n/a     .000
                     +     5.0 02:INF-West-B    14.48     .824 2002.0627_14:45  294.04  n/a     .000
                  SUM=     5.0 01:INF-West-T    34.15    1.857 2002.0627_14:45  294.04  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :  102

*****************************************************************************************




 RUN#:COMMAND#
```

```
R0103:C00001----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 20030101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0103 ]
#*********************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*********************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/07 [JB]
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*********************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0103:C00002----------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 2003.0101: End_date= 2003.1231]
      {DT= 60.min: Length= 4440.hrs: WetHrs=  406: DryHrs= 4034: PTOT= 554.60}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       15.10    10.00     7.13     4.28     3.18     1.86     1.25      .94      .81    mm/hr
       15.10    20.00    21.40    25.70    38.20    44.60    44.90    45.10    58.30    mm
      20030711 20030711 20030711 20030711 20031021 20031015 20030525 20030526 20030527  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         145      127      109       86       64       45       38       25       15
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         144       80       43       13        5        1        0        0        0
R0103:C00003----------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 72.10: APIavg= 28.54: APImin=  4.70}
#*********************************************************************************************
#                  Barrhaven Conservancy West Developments (WITH INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*********************************************************************************************
R0103:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-A        19.67     .211 2003.0711_17:50   86.07 .155     .000
      [CN= 76.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN= 32.46: SMAX=216.39: SK= .030]
      [InterEventTime=  12.00]
R0103:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:West-B        14.48     .147 2003.0711_17:45   76.16 .137     .000
      [CN= 72.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN= 39.75: SMAX=264.99: SK= .030]
      [InterEventTime=  12.00]
R0103:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:West-A        19.67     .211 2003.0711_17:50   86.07  n/a     .000
                    +     5.0 02:West-B        14.48     .147 2003.0711_17:45   76.16  n/a     .000
                 SUM=     5.0 01:West-Total    34.15     .358 2003.0711_17:50   81.87  n/a     .000
#*********************************************************************************************
#                  Barrhaven Conservancy West Developments (WITHOUT INFILTRATION) - PRE DEVELOPMENT CONDITIONS
#*********************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*********************************************************************************************
R0103:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-A    19.67     .430 2003.0711_17:40  251.88 .454     .000
      [CN=100.0: N= 3.00: Tp= 1.29]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0103:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     5.0 01:INF-West-B    14.48     .337 2003.0711_17:35  251.88 .454     .000
      [CN=100.0: N= 3.00: Tp= 1.18]
      [IaREC= 6.00: SMIN=  1.39: SMAX=  9.24: SK= .030]
      [InterEventTime=  12.00]
R0103:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-West-A    19.67     .430 2003.0711_17:40  251.88  n/a     .000
                    +     5.0 02:INF-West-B    14.48     .337 2003.0711_17:35  251.88  n/a     .000
                 SUM=     5.0 01:INF-West-T    34.15     .766 2003.0711_17:40  251.88  n/a     .000
##############################################################################
# CONTINUOUS RAINFALL DATA
##############################################################################
R0103:C00002----------------------------------------------------------------------------------
    FINISH
-----------------------------------------------------------------------------------------------
***********************************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
R0067:C00002  READ AES DATA
*** WARNING: Requested start date is less than start date in file.
*** WARNING: Missing rainfall increments were set to 0.
*** WARNING: Missing rainfall increments were set to 0.
*** WARNING: Missing rainfall increments were set to 0.
```

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*** WARNING: Missing rainfall increments were set to 0.
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*** WARNING: Missing rainfall increments were set to 0.
*** WARNING: Requested start date is less than start date in file.
*** WARNING: Missing rainfall increments were set to 0.
   Simulation ended on 2022-12-13     at 12:43:47
===================================================================================================
```

```
20     Metric units / ID Numbers OFF
*#*********************************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#*********************************************************************************************
*#  Project Name: Barrhaven Conservancy Development
*#  Project Number: 1474
*#  Date        : 2021/Oct/18
*#  Modeller    : J.Burnett, P.Eng.
*#  Updated     : 2022/Dec/13 [LP]
*#  Company     : J.F. Sabourin and Associates
*#  License #   : 2582634
*#*********************************************************************************************
START                TZERO=[1967.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[67]
*%                    [""] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------------------
*# Ottawa International Airport (1967 - 2003)
READ AES DATA        AES_FILENAME=["YOW_1967_2007.123"],
                     IELEM=[123], START_DATE=[0], END_DATE=[-364]
*%-----------------|---------------------------------------------------------------------------
COMPUTE API          APII=[50], APIK=[0.90]/day
*%-----------------|---------------------------------------------------------------------------
*#*********************************************************************************************
*#                   Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITIO
*#*********************************************************************************************
*%-----------------|---------------------------------------------------------------------------
CONTINUOUS STANDHYD NHYD=["W1"], DT=[5](min), AREA=[8.92](ha)
                     XIMP=[0.66], TIMP=[0.71], DWF=[0](cms),
                     LOSS=[2]: SCS curve number CN=[71],
                     Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                     Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[244](m), MNI=[0.013], SCI=[0](min)
                     Continuous simulation parameters:
                     IaRECper=[6](hrs),  IaRECimp=[1.5](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs), END=-1
*%-----------------|---------------------------------------------------------------------------
*# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
*# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
*# Total Volume provided by LID  - 179 m³
*# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
ROUTE RESERVOIR      NHYDout=["W1-LID"], NHYDin=["W1"], RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0000 ,  0.0000  ]
                                  [   0.0009 ,  0.0001  ]
                                  [   0.0010 ,  0.0179  ]
                                  [      -1   ,  -1     ]
                     NHYDovf=["W1-LID-Out"],
*%-----------------|---------------------------------------------------------------------------
CONTINUOUS STANDHYD NHYD=["W2"], DT=[5](min), AREA=[10.75](ha)
                     XIMP=[0.65], TIMP=[0.70], DWF=[0](cms),
                     LOSS=[2]: SCS curve number CN=[71],
                     Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                     Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[268](m), MNI=[0.013], SCI=[0](min)
                     Continuous simulation parameters:
                     IaRECper=[6](hrs),  IaRECimp=[1.5](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs), END=-1
*%-----------------|---------------------------------------------------------------------------
*# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
*# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pip
*# Total Volume provided by LID  - 200 m³
*# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
ROUTE RESERVOIR      NHYDout=["W2-LID"], NHYDin=["W2"], RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0000 ,  0.0000  ]
                                  [   0.0010 ,  0.0001  ]
                                  [   0.0011 ,  0.0200  ]
                                  [      -1   ,  -1     ]
                     NHYDovf=["W2-LID-Out"],
*%-----------------|---------------------------------------------------------------------------
CONTINUOUS STANDHYD NHYD=["W3"], DT=[5](min), AREA=[6.30](ha)
                     XIMP=[0.53], TIMP=[0.63], DWF=[0](cms),
                     LOSS=[2]: SCS curve number CN=[71],
                     Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                     Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[205](m), MNI=[0.013], SCI=[0](min)
                     Continuous simulation parameters:
                     IaRECper=[6](hrs),  IaRECimp=[1.5](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs), END=-1
*%-----------------|---------------------------------------------------------------------------
*# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
*# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pip
*# Total Volume provided by LID  - 96 m³
*# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
ROUTE RESERVOIR      NHYDout=["W3-LID"], NHYDin=["W3"], RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0000 ,  0.0000  ]
                                  [   0.0004 ,  0.0001  ]
                                  [   0.0005 ,  0.0096  ]
                                  [      -1   ,  -1     ]
```

```
                         NHYDovf=["W3-LID-Out"],
*%-----------------|------------------------------------------------------------------------------------------
CONTINUOUS STANDHYD NHYD=["W4"], DT=[5](min), AREA=[8.18](ha)
                         XIMP=[0.57], TIMP=[0.67], DWF=[0](cms),
                         LOSS=[2]: SCS curve number CN=[71],
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[234](m), MNI=[0.013], SCI=[0](min)
                         Continuous simulation parameters:
                         IaRECper=[6](hrs),  IaRECimp=[1.5](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs), END=-1
*%-----------------|------------------------------------------------------------------------------------------
*# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
*# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pip
*# Total Volume provided by LID  - 131 m³
*# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
ROUTE RESERVOIR     NHYDout=["W4-LID"], NHYDin=["W4"], RDT=[5](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                      [   0.0000 ,  0.0000  ]
                                      [   0.0006 ,  0.0001  ]
                                      [   0.0007 ,  0.0131  ]
                                      [      -1   ,  -1     ]
                         NHYDovf=["W4-LID-Out"],
*%-----------------|------------------------------------------------------------------------------------------
*Development Without LIDs
ADD HYD             NHYDsum=["BCD-PH3"], NHYDs to add=["W1", "W2", "W3", "W4"]
*%-----------------|------------------------------------------------------------------------------------------
*Development With LIDs
ADD HYD             NHYDsum=["BCD-PH3-LID"], NHYDs to add=["W1-LID-Out","W2-LID-Out","W3-LID-Out","W4-LID-Out"
*%-----------------|------------------------------------------------------------------------------------------
*#**********************************************************************************************************
*#                       Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDI
*#**********************************************************************************************************
*#                       Set infiltration to 0 (CN = 99.99) for water balance analysis
*#**********************************************************************************************************
CONTINUOUS STANDHYD NHYD=["INF-W1"], DT=[5](min), AREA=[8.92](ha)
                         XIMP=[0.66], TIMP=[0.71], DWF=[0](cms),
                         LOSS=[2]: SCS curve number CN=[99.99],
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[244](m), MNI=[0.013], SCI=[0](min)
                         Continuous simulation parameters:
                         IaRECper=[6](hrs),  IaRECimp=[1.5](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs), END=-1
*%-----------------|------------------------------------------------------------------------------------------
CONTINUOUS STANDHYD NHYD=["INF-W2"], DT=[5](min), AREA=[10.75](ha)
                         XIMP=[0.65], TIMP=[0.70], DWF=[0](cms),
                         LOSS=[2]: SCS curve number CN=[99.99],
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[268](m), MNI=[0.013], SCI=[0](min)
                         Continuous simulation parameters:
                         IaRECper=[6](hrs),  IaRECimp=[1.5](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs), END=-1
*%-----------------|------------------------------------------------------------------------------------------
CONTINUOUS STANDHYD NHYD=["INF-W3"], DT=[5](min), AREA=[6.30](ha)
                         XIMP=[0.53], TIMP=[0.63], DWF=[0](cms),
                         LOSS=[2]: SCS curve number CN=[99.99],
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[205](m), MNI=[0.013], SCI=[0](min)
                         Continuous simulation parameters:
                         IaRECper=[6](hrs),  IaRECimp=[1.5](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs), END=-1
*%-----------------|------------------------------------------------------------------------------------------
CONTINUOUS STANDHYD NHYD=["INF-W4"], DT=[5](min), AREA=[8.18](ha)
                         XIMP=[0.57], TIMP=[0.67], DWF=[0](cms),
                         LOSS=[2]: SCS curve number CN=[99.99],
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[234](m), MNI=[0.013], SCI=[0](min)
                         Continuous simulation parameters:
                         IaRECper=[6](hrs),  IaRECimp=[1.5](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.03]/(mm), InterEventTime=[12](hrs), END=-1
*%-----------------|------------------------------------------------------------------------------------------
*Development Without Infiltration for water budget
ADD HYD             NHYDsum=["INF-BCD-PH3"], NHYDs to add=["INF-W1", "INF-W2", "INF-W3", "INF-W4"]
*%-----------------|------------------------------------------------------------------------------------------
*###########################################################################
*# CONTINUOUS RAINFALL DATA
*###########################################################################
*%-----------------|------------------------------------------------------------------------------------------
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1968.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[68]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1969.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[69]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1970.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[70]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1971.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[71]
*%-----------------|------------------------------------------------------------------------------------------
START               TZERO=[1972.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[72]
*%-----------------|------------------------------------------------------------------------------------------
```

```
START                TZERO=[1973.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[73]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1974.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[74]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1975.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[75]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1976.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[76]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1977.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[77]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1978.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[78]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1979.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[79]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1980.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[80]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1981.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[81]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1982.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[82]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1983.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[83]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1984.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[84]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1985.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[85]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1986.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[86]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1987.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[87]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1988.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[88]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1989.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[89]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1990.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[90]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1991.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[91]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1992.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[92]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1993.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[93]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1994.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[94]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1995.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[95]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1996.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[96]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1997.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[97]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1998.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[98]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[1999.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[99]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[2000.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[100]
*%-----------------|------------------------------------------------------------------------------------------
*% MISSING FROM AES RAINFALL DATA
*%START                TZERO=[2001.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[101]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[2002.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[102]
*%-----------------|------------------------------------------------------------------------------------------
START                TZERO=[2003.0101],  METOUT=[2],  NSTORM=[0],  NRUN=[103]
*%-----------------|------------------------------------------------------------------------------------------
FINISH
```

```
===============================================================================================

SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000     11   5555    =========
S       W W W   MM MM   H   H    Y Y    MM MM   O   O           2    0   0    11   5
SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O           2    0   0    11   5       Ver 5.500
    S    W W    M   M   H   H     Y     M   M   O   O         222    0   0    11   555     FEB  2015
SSSSS    W W    M   M   H   H     Y     M   M    OOO          2      0   0    11      5    =========
                                                              2      0   0    11      5    # 2549237
      StormWater Management HYdrologic Model                  222     000     11   555     =========

***********************************************************************************************
*************************************  SWMHYMO Ver 5.500  *************************************
******************  A single event and continuous hydrologic simulation model  ****************
******************     based on the principles of HYMO and its successors      ******************
******************                OTTHYMO-83 and OTTHYMO-89.                   ******************
***********************************************************************************************
****************** Distributed by:  J.F. Sabourin and Associates Inc.           ******************
******************                 Ottawa,  Ontario: (613) 836-3884            ******************
******************                 Gatineau, Quebec: (819) 243-6858            ******************
******************                 E-Mail: swmhymo@jfsa.Com                    ******************
***********************************************************************************************

+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++ Licensed user: JFSAinc.                                  +++++++++++++++++++
++++++++++++++++++                Ottawa                SERIAL#:2549237     +++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

***********************************************************************************************
******************          ++++++ PROGRAM ARRAY DIMENSIONS ++++++          ******************
******************          Maximum value for ID numbers  :     11          ******************
******************          Max. number of rainfall points: 105408          ******************
******************          Max. number of flow points    : 105408          ******************
***********************************************************************************************


*******************************   S U M M A R Y   O U T P U T   *******************************
***********************************************************************************************
*                 RUN DATE: 2022-12-13     TIME: 12:43:53     RUN COUNTER: 004325            *
***********************************************************************************************
* Input   file: C:\Users\lpipk\Desktop\20221213-Post-Dev\BCD_PH3-POST_v02.dat                 *
* Output  file: C:\Users\lpipk\Desktop\20221213-Post-Dev\BCD_PH3-POST_v02.out                 *
* Summary file: C:\Users\lpipk\Desktop\20221213-Post-Dev\BCD_PH3-POST_v02.sum                 *
* User comments:                                                                              *
* 1:__________________________________________________________________________________________*
* 2:__________________________________________________________________________________________*
* 3:__________________________________________________________________________________________*
***********************************************************************************************


#***************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************************
  ** END OF RUN :   66

***********************************************************************************************





 RUN#:COMMAND#
R0067:C00001------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19670101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0067 ]
#***************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0067:C00002------------------------------------------------------------------------------------
  *  READ AES DATA
```

```
      [Filename  = YOW_1967_2007.123                                               ]
      [Start_date= 1967.0101: End_date= 1967.1231]
      {DT= 60.min: Length= 3984.hrs: WetHrs=  257: DryHrs= 3727: PTOT= 386.90}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       24.60    17.65    13.20     7.25     3.83     2.36     1.73     1.32      .90    mm/hr
       24.60    35.30    39.60    43.50    46.00    56.60    62.30    63.20    64.90    mm
      19670921 19670921 19670921 19670921 19670921 19670922 19670922 19670923 19670924  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          80       65       56       40       32       29       24       20       18
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          79       42       29       14        3        0        0        0        0
R0067:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 76.77: APIavg= 24.81: APImin=  3.06}
#***************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0067:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .420 1967.0921_17:00  224.61 .581     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0067:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .420 1967.0921_17:00  224.61  n/a     .000
                out <=    5.0 01:W1-LID         1.87     .001 1967.0725_ 0:30  224.61  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     7.05     .416 1967.0921_17:00  224.61  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.1585E+01  m3, N-Ovf=   66, TotDurOvf=  121.hrs}
R0067:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .499 1967.0921_17:00  222.14 .574     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0067:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .499 1967.0921_17:00  222.14  n/a     .000
                out <=    5.0 01:W2-LID         2.12     .001 1967.0725_ 0:30  222.14  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     8.63     .493 1967.0921_17:00  222.14  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.1918E+01  m3, N-Ovf=   72, TotDurOvf=  123.hrs}
R0067:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .253 1967.0921_17:00  197.15 .510     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0067:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .253 1967.0921_17:00  197.15  n/a     .000
                out <=    5.0 01:W3-LID         1.12     .001 1967.0725_ 0:30  197.15  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     5.18     .248 1967.0921_17:00  197.15  n/a     .000
     {MxStoUsed=.9598E-02  m3, TotOvfVol=.1022E+01  m3, N-Ovf=   77, TotDurOvf=  127.hrs}
R0067:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .348 1967.0921_17:00  207.14 .535     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0067:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .348 1967.0921_17:00  207.14  n/a     .000
                out <=    5.0 01:W4-LID         1.47     .001 1967.0725_ 0:30  207.14  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     6.71     .343 1967.0921_17:00  207.14  n/a     .000
     {MxStoUsed=.1309E-01  m3, TotOvfVol=.1390E+01  m3, N-Ovf=   66, TotDurOvf=  126.hrs}
```

```
R0067:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:W1            8.92     .420 1967.0921_17:00  224.61  n/a     .000
                  +      5.0 02:W2           10.75     .499 1967.0921_17:00  222.14  n/a     .000
                  +      5.0 02:W3            6.30     .253 1967.0921_17:00  197.15  n/a     .000
                  +      5.0 02:W4            8.18     .348 1967.0921_17:00  207.14  n/a     .000
               SUM=      5.0 01:BCD-PH3      34.15    1.519 1967.0921_17:00  214.58  n/a     .000
R0067:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:W1-LID-Out     7.05     .416 1967.0921_17:00  224.61  n/a     .000
                  +      5.0 02:W2-LID-Out     8.63     .493 1967.0921_17:00  222.14  n/a     .000
                  +      5.0 02:W3-LID-Out     5.18     .248 1967.0921_17:00  197.15  n/a     .000
                  +      5.0 02:W4-LID-Out     6.71     .343 1967.0921_17:00  207.14  n/a     .000
               SUM=      5.0 01:BCD-PH3-LI    27.58    1.500 1967.0921_17:00  214.43  n/a     .000
#*************************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*************************************************************************************************************
R0067:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .564 1967.0921_17:00  271.41 .702     .000
     [XIMP=.66:TIMP=.71]
     [LOSS= 2 :CN=100.0]
     [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0067:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .676 1967.0921_17:00  270.26 .699     .000
     [XIMP=.65:TIMP=.70]
     [LOSS= 2 :CN=100.0]
     [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0067:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .394 1967.0921_17:00  262.85 .679     .000
     [XIMP=.53:TIMP=.63]
     [LOSS= 2 :CN=100.0]
     [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0067:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W4        8.18     .515 1967.0921_17:00  267.51 .691     .000
     [XIMP=.57:TIMP=.67]
     [LOSS= 2 :CN=100.0]
     [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0067:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:INF-W1        8.92     .564 1967.0921_17:00  271.41  n/a     .000
                  +      5.0 02:INF-W2       10.75     .676 1967.0921_17:00  270.26  n/a     .000
                  +      5.0 02:INF-W3        6.30     .394 1967.0921_17:00  262.85  n/a     .000
                  +      5.0 02:INF-W4        8.18     .515 1967.0921_17:00  267.51  n/a     .000
               SUM=      5.0 01:INF-BCD-PH   34.15    2.149 1967.0921_17:00  268.53  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :   67

***************************************************************************************************

 RUN#:COMMAND#
R0068:C00001---------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19680101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0068 ]
#*************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0068:C00002---------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1968.0101: End_date= 1968.1230]
```

```
      {DT= 60.min: Length= 8760.hrs: WetHrs=  413: DryHrs= 8347: PTOT= 592.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       33.30    17.05    11.37     6.23     3.74     1.87     1.26      .95      .70    mm/hr
       33.30    34.10    34.10    37.40    44.90    44.90    45.40    45.40    50.20    mm
      19680817 19680817 19680817 19680808 19680817 19680818 19680817 19680808 19680820  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         137      105       93       84       72       63       48       43       36
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         136       76       49       18        5        0        0        0        0
R0068:C00003--------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 67.52: APIavg= 16.74: APImin=   .27}
#*************************************************************************************************************
#                    Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*************************************************************************************************************
R0068:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1            8.92     .612 1968.0817_ 5:00  321.18 .542     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0068:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .612 1968.0817_ 5:00  321.18  n/a     .000
               out <=     5.0 01:W1-LID        2.47     .001 1968.0130_ 4:25  321.19  n/a     .000
          overflow <=     5.0 03:W1-LID-Out    6.45     .600 1968.0817_ 5:00  321.18  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2073E+01  m3, N-Ovf=  108, TotDurOvf=  164.hrs}
R0068:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .728 1968.0817_ 5:00  317.28 .535     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0068:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .728 1968.0817_ 5:00  317.28  n/a     .000
               out <=     5.0 01:W2-LID        2.80     .001 1968.0130_ 3:55  317.27  n/a     .000
          overflow <=     5.0 03:W2-LID-Out    7.95     .713 1968.0817_ 5:00  317.28  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2521E+01  m3, N-Ovf=  119, TotDurOvf=  170.hrs}
R0068:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .382 1968.0817_ 5:00  275.30 .464     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0068:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .382 1968.0817_ 5:00  275.30  n/a     .000
               out <=     5.0 01:W3-LID        1.52     .001 1968.0130_ 3:55  275.31  n/a     .000
          overflow <=     5.0 03:W3-LID-Out    4.78     .370 1968.0817_ 5:00  275.30  n/a     .000
     {MxStoUsed=.9600E-02  m3, TotOvfVol=.1316E+01  m3, N-Ovf=  107, TotDurOvf=  173.hrs}
R0068:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .520 1968.0817_ 5:00  291.04 .491     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0068:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .520 1968.0817_ 5:00  291.04  n/a     .000
               out <=     5.0 01:W4-LID        1.99     .001 1968.0130_ 3:50  291.04  n/a     .000
          overflow <=     5.0 03:W4-LID-Out    6.19     .505 1968.0817_ 5:00  291.04  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1803E+01  m3, N-Ovf=  115, TotDurOvf=  174.hrs}
R0068:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .612 1968.0817_ 5:00  321.18  n/a     .000
```

```
                   +     5.0 02:W2           10.75     .728 1968.0817_ 5:00  317.28  n/a     .000
                   +     5.0 02:W3            6.30     .382 1968.0817_ 5:00  275.30  n/a     .000
                   +     5.0 02:W4            8.18     .520 1968.0817_ 5:00  291.04  n/a     .000
                SUM=     5.0 01:BCD-PH3      34.15    2.241 1968.0817_ 5:00  304.27  n/a     .000
R0068:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              5.0 02:W1-LID-Out    6.45     .600 1968.0817_ 5:00  321.18  n/a     .000
                   +     5.0 02:W2-LID-Out    7.95     .713 1968.0817_ 5:00  317.28  n/a     .000
                   +     5.0 02:W3-LID-Out    4.78     .370 1968.0817_ 5:00  275.30  n/a     .000
                   +     5.0 02:W4-LID-Out    6.19     .505 1968.0817_ 5:00  291.04  n/a     .000
                SUM=     5.0 01:BCD-PH3-LI   25.37    2.188 1968.0817_ 5:00  303.96  n/a     .000
#*****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0068:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .790 1968.0817_ 5:00  392.41 .662     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0068:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .948 1968.0817_ 5:00  390.46 .659     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0068:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .564 1968.0817_ 5:00  376.68 .635     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0068:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4        8.18     .722 1968.0817_ 5:00  384.61 .649     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0068:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              5.0 02:INF-W1        8.92     .790 1968.0817_ 5:00  392.41  n/a     .000
                   +     5.0 02:INF-W2       10.75     .948 1968.0817_ 5:00  390.46  n/a     .000
                   +     5.0 02:INF-W3        6.30     .564 1968.0817_ 5:00  376.68  n/a     .000
                   +     5.0 02:INF-W4        8.18     .722 1968.0817_ 5:00  384.61  n/a     .000
                SUM=     5.0 01:INF-BCD-PH   34.15    3.023 1968.0817_ 5:00  387.03  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   68

***********************************************************************************************






 RUN#:COMMAND#
R0069:C00001---------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19690101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0069 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0069:C00002---------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                    ]
      [Start_date= 1969.0101: End_date= 1969.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  470: DryHrs= 8290: PTOT= 570.30}
      Maximum average rainfall intensities over
```

```
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       21.10    16.25    10.83     7.78     3.93     2.10     1.40     1.09      .75    mm/hr
       21.10    32.50    32.50    46.70    47.20    50.30    50.30    52.10    54.00    mm
      19690818 19690818 19690818 19690819 19690819 19690819 19690819 19690819 19690819  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         157      119      107       92       72       58       49       43       32
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         156       84       58       21        5        0        0        0        0
R0069:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 56.77: APIavg= 16.06: APImin=   .06}
#**************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************
R0069:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1            8.92     .384 1969.0818_22:00  294.38 .516     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0069:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .384 1969.0818_22:00  294.38  n/a     .000
                out <=    5.0 01:W1-LID        2.45     .001 1969.0124_11:10  294.39  n/a     .000
           overflow <=    5.0 03:W1-LID-Out    6.47     .379 1969.0818_22:00  294.38  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.1904E+01  m3, N-Ovf=   90, TotDurOvf=  174.hrs}
R0069:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .457 1969.0818_22:00  290.70 .510     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0069:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .457 1969.0818_22:00  290.70  n/a     .000
                out <=    5.0 01:W2-LID        2.81     .001 1969.0124_11:05  290.70  n/a     .000
           overflow <=    5.0 03:W2-LID-Out    7.94     .450 1969.0818_22:00  290.70  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.2308E+01  m3, N-Ovf=   96, TotDurOvf=  180.hrs}
R0069:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .238 1969.0818_22:00  251.22 .441     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0069:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .238 1969.0818_22:00  251.22  n/a     .000
                out <=    5.0 01:W3-LID        1.54     .001 1969.0124_11:05  251.23  n/a     .000
           overflow <=    5.0 03:W3-LID-Out    4.76     .233 1969.0818_22:00  251.22  n/a     .000
     {MxStoUsed=.9599E-02  m3, TotOvfVol=.1197E+01  m3, N-Ovf=   94, TotDurOvf=  183.hrs}
R0069:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .325 1969.0818_22:00  266.02 .466     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0069:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .325 1969.0818_22:00  266.02  n/a     .000
                out <=    5.0 01:W4-LID        2.01     .001 1969.0124_11:00  266.02  n/a     .000
           overflow <=    5.0 03:W4-LID-Out    6.17     .318 1969.0818_22:00  266.02  n/a     .000
     {MxStoUsed=.1309E-01  m3, TotOvfVol=.1642E+01  m3, N-Ovf=   90, TotDurOvf=  184.hrs}
R0069:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .384 1969.0818_22:00  294.38  n/a     .000
                    +     5.0 02:W2           10.75     .457 1969.0818_22:00  290.70  n/a     .000
                    +     5.0 02:W3            6.30     .238 1969.0818_22:00  251.22  n/a     .000
```

```
                       +     5.0 02:W4            8.18     .325 1969.0818_22:00  266.02  n/a     .000
                    SUM=     5.0 01:BCD-PH3      34.15    1.404 1969.0818_22:00  278.47  n/a     .000
R0069:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  5.0 02:W1-LID-Out     6.47     .379 1969.0818_22:00  294.38  n/a     .000
                       +     5.0 02:W2-LID-Out     7.94     .450 1969.0818_22:00  290.70  n/a     .000
                       +     5.0 02:W3-LID-Out     4.76     .233 1969.0818_22:00  251.22  n/a     .000
                       +     5.0 02:W4-LID-Out     6.17     .318 1969.0818_22:00  266.02  n/a     .000
                    SUM=     5.0 01:BCD-PH3-LI    25.34    1.381 1969.0818_22:00  278.21  n/a     .000
#**************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#**************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************
R0069:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .509 1969.0818_22:00  361.76 .634     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0069:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .612 1969.0818_22:00  359.93 .631     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0069:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .359 1969.0818_22:00  347.21 .609     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0069:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .467 1969.0818_22:00  354.61 .622     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0069:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  5.0 02:INF-W1         8.92     .509 1969.0818_22:00  361.76  n/a     .000
                       +     5.0 02:INF-W2        10.75     .612 1969.0818_22:00  359.93  n/a     .000
                       +     5.0 02:INF-W3         6.30     .359 1969.0818_22:00  347.21  n/a     .000
                       +     5.0 02:INF-W4         8.18     .467 1969.0818_22:00  354.61  n/a     .000
                    SUM=     5.0 01:INF-BCD-PH    34.15    1.948 1969.0818_22:00  356.79  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   69

*******************************************************************************************************






 RUN#:COMMAND#
R0070:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19700101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0070 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0070:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1970.0101: End_date= 1970.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  373: DryHrs= 8387: PTOT= 558.90}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       35.30    18.30    12.20     6.10     3.63     1.81     1.21     1.46      .99    mm/hr
```

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        35.30    36.60    36.60    36.60    43.50    43.50    43.50    69.90    71.20    mm
       19700926 19700926 19700926 19700927 19700817 19700817 19700818 19700926 19700927  date
       Number of rainfall events per following interevent time
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          148      127      109       84       72       60       54       41       30
       Number of events with at least the following durations
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          147       79       40       15        3        0        0        0        0
R0070:C00003----------------------------------------------------------------------------------------
      COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
       {APImax= 76.00: APIavg= 15.84: APImin=   .07}
#**************************************************************************************************************
#                   Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************************
R0070:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W1             8.92     .665 1970.0926_21:00  288.79 .517     .000
       [XIMP=.66:TIMP=.71]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0070:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W1             8.92     .665 1970.0926_21:00  288.79  n/a     .000
                 out <=    5.0 01:W1-LID         2.45     .001 1970.0202_11:50  288.79  n/a     .000
            overflow <=    5.0 03:W1-LID-Out     6.47     .651 1970.0926_21:00  288.79  n/a     .000
      {MxStoUsed=.1789E-01  m3, TotOvfVol=.1870E+01  m3, N-Ovf=   84, TotDurOvf=  133.hrs}
R0070:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W2            10.75     .792 1970.0926_21:00  285.15 .510     .000
       [XIMP=.65:TIMP=.70]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0070:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W2            10.75     .792 1970.0926_21:00  285.15  n/a     .000
                 out <=    5.0 01:W2-LID         2.79     .001 1970.0202_11:45  285.14  n/a     .000
            overflow <=    5.0 03:W2-LID-Out     7.96     .775 1970.0926_21:00  285.15  n/a     .000
      {MxStoUsed=.1998E-01  m3, TotOvfVol=.2270E+01  m3, N-Ovf=  102, TotDurOvf=  138.hrs}
R0070:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W3             6.30     .423 1970.0926_21:00  245.92 .440     .000
       [XIMP=.53:TIMP=.63]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0070:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W3             6.30     .423 1970.0926_21:00  245.92  n/a     .000
                 out <=    5.0 01:W3-LID         1.52     .001 1970.0202_11:40  245.93  n/a     .000
            overflow <=    5.0 03:W3-LID-Out     4.78     .409 1970.0926_21:00  245.92  n/a     .000
      {MxStoUsed=.9597E-02  m3, TotOvfVol=.1175E+01  m3, N-Ovf=   91, TotDurOvf=  141.hrs}
R0070:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W4             8.18     .572 1970.0926_21:00  260.57 .466     .000
       [XIMP=.57:TIMP=.67]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0070:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W4             8.18     .572 1970.0926_21:00  260.57  n/a     .000
                 out <=    5.0 01:W4-LID         1.99     .001 1970.0202_11:45  260.57  n/a     .000
            overflow <=    5.0 03:W4-LID-Out     6.19     .555 1970.0926_21:00  260.57  n/a     .000
      {MxStoUsed=.1310E-01  m3, TotOvfVol=.1614E+01  m3, N-Ovf=   93, TotDurOvf=  141.hrs}
R0070:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:W1             8.92     .665 1970.0926_21:00  288.79  n/a     .000
                     +     5.0 02:W2            10.75     .792 1970.0926_21:00  285.15  n/a     .000
                     +     5.0 02:W3             6.30     .423 1970.0926_21:00  245.92  n/a     .000
                     +     5.0 02:W4             8.18     .572 1970.0926_21:00  260.57  n/a     .000
                 SUM=      5.0 01:BCD-PH3       34.15    2.451 1970.0926_21:00  272.98  n/a     .000
```

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R0070:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.47     .651 1970.0926_21:00  288.79  n/a     .000
                    +     5.0 02:W2-LID-Out     7.96     .775 1970.0926_21:00  285.15  n/a     .000
                    +     5.0 02:W3-LID-Out     4.78     .409 1970.0926_21:00  245.92  n/a     .000
                    +     5.0 02:W4-LID-Out     6.19     .555 1970.0926_21:00  260.57  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    25.41    2.391 1970.0926_21:00  272.71  n/a     .000
#****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#****************************************************************************************************
R0070:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .840 1970.0926_21:00  353.78 .633     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0070:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75    1.008 1970.0926_21:00  351.90 .630     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0070:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .598 1970.0926_21:00  339.10 .607     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0070:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .777 1970.0926_21:00  346.75 .620     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0070:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .840 1970.0926_21:00  353.78  n/a     .000
                    +     5.0 02:INF-W2        10.75    1.008 1970.0926_21:00  351.90  n/a     .000
                    +     5.0 02:INF-W3         6.30     .598 1970.0926_21:00  339.10  n/a     .000
                    +     5.0 02:INF-W4         8.18     .777 1970.0926_21:00  346.75  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    3.224 1970.0926_21:00  348.80  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   70

*****************************************************************************************************





 RUN#:COMMAND#
R0071:C00001--------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19710101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0071 ]
#****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0071:C00002--------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                         ]
      [Start_date= 1971.0101: End_date= 1971.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  412: DryHrs= 8348: PTOT= 522.10}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       24.60    16.60    11.67     6.13     3.09     1.56     1.06      .79      .54   mm/hr
       24.60    33.20    35.00    36.80    37.10    37.40    38.00    38.00    38.90   mm
      19710810 19710810 19710810 19710810 19710810 19710810 19710811 19710812 19710830  date
```

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      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         156      123      113       93       72       61       52       42       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         155       81       59       21        2        0        0        0        0
R0071:C00003---------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 62.22: APIavg= 14.84: APImin=   .36}
#**************************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************************
R0071:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1            8.92     .432 1971.0810_15:00  258.23 .495     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0071:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .432 1971.0810_15:00  258.23  n/a     .000
                 out <=   5.0 01:W1-LID        2.81     .001 1971.0402_ 3:00  258.23  n/a     .000
            overflow <=   5.0 03:W1-LID-Out    6.11     .426 1971.0810_15:00  258.23  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.1577E+01  m3, N-Ovf=   97, TotDurOvf=  116.hrs}
R0071:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .513 1971.0810_15:00  254.87 .488     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0071:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .513 1971.0810_15:00  254.87  n/a     .000
                 out <=   5.0 01:W2-LID        3.21     .001 1971.0402_ 2:45  254.86  n/a     .000
            overflow <=   5.0 03:W2-LID-Out    7.54     .506 1971.0810_15:00  254.87  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.1922E+01  m3, N-Ovf=   94, TotDurOvf=  122.hrs}
R0071:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .262 1971.0810_15:00  218.03 .418     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0071:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .262 1971.0810_15:00  218.03  n/a     .000
                 out <=   5.0 01:W3-LID        1.77     .001 1971.0402_ 2:40  218.03  n/a     .000
            overflow <=   5.0 03:W3-LID-Out    4.53     .257 1971.0810_15:00  218.03  n/a     .000
     {MxStoUsed=.9597E-02  m3, TotOvfVol=.9883E+00  m3, N-Ovf=  100, TotDurOvf=  126.hrs}
R0071:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .359 1971.0810_15:00  231.57 .444     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0071:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .359 1971.0810_15:00  231.57  n/a     .000
                 out <=   5.0 01:W4-LID        2.30     .001 1971.0402_ 2:35  231.57  n/a     .000
            overflow <=   5.0 03:W4-LID-Out    5.88     .353 1971.0810_15:00  231.57  n/a     .000
     {MxStoUsed=.1309E-01  m3, TotOvfVol=.1362E+01  m3, N-Ovf=   97, TotDurOvf=  127.hrs}
R0071:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .432 1971.0810_15:00  258.23  n/a     .000
                     +    5.0 02:W2           10.75     .513 1971.0810_15:00  254.87  n/a     .000
                     +    5.0 02:W3            6.30     .262 1971.0810_15:00  218.03  n/a     .000
                     +    5.0 02:W4            8.18     .359 1971.0810_15:00  231.57  n/a     .000
                  SUM=    5.0 01:BCD-PH3      34.15    1.566 1971.0810_15:00  243.37  n/a     .000
R0071:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.11     .426 1971.0810_15:00  258.23  n/a     .000
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                   +     5.0 02:W2-LID-Out     7.54     .506 1971.0810_15:00  254.87  n/a     .000
                   +     5.0 02:W3-LID-Out     4.53     .257 1971.0810_15:00  218.03  n/a     .000
                   +     5.0 02:W4-LID-Out     5.88     .353 1971.0810_15:00  231.57  n/a     .000
                SUM=     5.0 01:BCD-PH3-LI    24.06    1.542 1971.0810_15:00  243.09  n/a     .000
#*******************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*******************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*******************************************************************************************************
R0071:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .577 1971.0810_15:00  313.64 .601     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0071:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .692 1971.0810_15:00  311.74 .597     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0071:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .405 1971.0810_15:00  298.09 .571     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0071:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .527 1971.0810_15:00  305.79 .586     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0071:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .577 1971.0810_15:00  313.64  n/a     .000
                   +     5.0 02:INF-W2        10.75     .692 1971.0810_15:00  311.74  n/a     .000
                   +     5.0 02:INF-W3         6.30     .405 1971.0810_15:00  298.09  n/a     .000
                   +     5.0 02:INF-W4         8.18     .527 1971.0810_15:00  305.79  n/a     .000
                SUM=     5.0 01:INF-BCD-PH    34.15    2.201 1971.0810_15:00  308.29  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :    71

*****************************************************************************************************





 RUN#:COMMAND#
R0072:C00001-----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19720101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0072 ]
#*******************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*******************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0072:C00002-----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1972.0101: End_date= 1972.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  489: DryHrs= 8271: PTOT= 784.30}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       37.30    19.15    12.97     8.15     4.50     2.53     2.00     1.71     1.17    mm/hr
       37.30    38.30    38.90    48.90    54.00    60.70    72.10    82.20    84.20    mm
      19720712 19720712 19720807 19720808 19720808 19720808 19720713 19720714 19720715  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
```

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        170      133      122       86       76       60       45       41       31
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        169       96       58       21        5        0        0        0        0
R0072:C00003----------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax=108.88: APIavg= 21.70: APImin=   .00}
#*********************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*********************************************************************************************
R0072:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .698 1972.0712_ 4:00  447.90 .571     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0072:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .698 1972.0712_ 4:00  447.90  n/a     .000
                out <=    5.0 01:W1-LID         1.94     .001 1972.0413_10:00  447.91  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.98     .683 1972.0712_ 4:00  447.90  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.3126E+01  m3, N-Ovf=  138, TotDurOvf=  198.hrs}
R0072:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .831 1972.0712_ 4:00  442.89 .565     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0072:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .831 1972.0712_ 4:00  442.89  n/a     .000
                out <=    5.0 01:W2-LID         2.20     .001 1972.0413_ 9:55  442.88  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     8.55     .812 1972.0712_ 4:00  442.89  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.3786E+01  m3, N-Ovf=  143, TotDurOvf=  204.hrs}
R0072:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .442 1972.0712_ 4:00  391.20 .499     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0072:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .442 1972.0712_ 4:00  391.20  n/a     .000
                out <=    5.0 01:W3-LID         1.17     .001 1972.0413_ 9:50  391.21  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     5.13     .426 1972.0712_ 4:00  391.20  n/a     .000
     {MxStoUsed=.9599E-02  m3, TotOvfVol=.2008E+01  m3, N-Ovf=  141, TotDurOvf=  210.hrs}
R0072:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .598 1972.0712_ 4:00  411.36 .525     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0072:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .598 1972.0712_ 4:00  411.36  n/a     .000
                out <=    5.0 01:W4-LID         1.54     .001 1972.0413_ 9:55  411.37  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     6.64     .579 1972.0712_ 4:00  411.36  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.2733E+01  m3, N-Ovf=  151, TotDurOvf=  209.hrs}
R0072:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .698 1972.0712_ 4:00  447.90  n/a     .000
                    +     5.0 02:W2            10.75     .831 1972.0712_ 4:00  442.89  n/a     .000
                    +     5.0 02:W3             6.30     .442 1972.0712_ 4:00  391.20  n/a     .000
                    +     5.0 02:W4             8.18     .598 1972.0712_ 4:00  411.36  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15    2.569 1972.0712_ 4:00  427.11  n/a     .000
R0072:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.98     .683 1972.0712_ 4:00  447.90  n/a     .000
                    +     5.0 02:W2-LID-Out     8.55     .812 1972.0712_ 4:00  442.89  n/a     .000
                    +     5.0 02:W3-LID-Out     5.13     .426 1972.0712_ 4:00  391.20  n/a     .000
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                   +     5.0 02:W4-LID-Out     6.64     .579 1972.0712_ 4:00  411.36  n/a     .000
                SUM=     5.0 01:BCD-PH3-LI    27.30    2.501 1972.0712_ 4:00  426.78  n/a     .000
#*******************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*******************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*******************************************************************************************************
R0072:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .900 1972.0712_ 4:00  542.44 .692     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0072:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75    1.068 1972.0712_ 4:00  540.07 .689     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0072:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .635 1972.0712_ 4:00  524.93 .669     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0072:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .824 1972.0712_ 4:00  534.52 .682     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0072:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .900 1972.0712_ 4:00  542.44  n/a     .000
                   +     5.0 02:INF-W2        10.75    1.068 1972.0712_ 4:00  540.07  n/a     .000
                   +     5.0 02:INF-W3         6.30     .635 1972.0712_ 4:00  524.93  n/a     .000
                   +     5.0 02:INF-W4         8.18     .824 1972.0712_ 4:00  534.51  n/a     .000
                SUM=     5.0 01:INF-BCD-PH    34.15    3.427 1972.0712_ 4:00  536.57  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   72

*****************************************************************************************************

 RUN#:COMMAND#
R0073:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19730101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0073 ]
#*******************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*******************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0073:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                           ]
      [Start_date= 1973.0101: End_date= 1973.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  549: DryHrs= 8211: PTOT= 744.90}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       30.00    17.25    12.33     7.10     3.63     1.89     1.28      .96      .96    mm/hr
       30.00    34.50    37.00    42.60    43.60    45.40    46.00    46.00    69.20    mm
      19730611 19730808 19730808 19730808 19730808 19730616 19730616 19730616 19731005  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         200      164      143      108       79       61       54       43       37
      Number of events with at least the following durations
```

```
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         200      102       66       20        4        0        0        0        0
R0073:C00003-----------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 78.26: APIavg= 20.56: APImin=   .06}
#**********************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**********************************************************************************************************
R0073:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .542 1973.0611_17:00  400.85 .538     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0073:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .542 1973.0611_17:00  400.85  n/a     .000
                out <=    5.0 01:W1-LID         2.08     .001 1973.0317_ 7:55  400.86  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.84     .532 1973.0611_17:00  400.85  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2742E+01  m3, N-Ovf=  111, TotDurOvf=  188.hrs}
R0073:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .644 1973.0611_17:00  396.04 .532     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0073:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .644 1973.0611_17:00  396.04  n/a     .000
                out <=    5.0 01:W2-LID         2.37     .001 1973.0317_ 7:50  396.03  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     8.38     .632 1973.0611_17:00  396.04  n/a     .000
     {MxStoUsed=.1997E-01  m3, TotOvfVol=.3320E+01  m3, N-Ovf=  109, TotDurOvf=  194.hrs}
R0073:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .338 1973.0808_20:00  344.92 .463     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0073:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .338 1973.0808_20:00  344.92  n/a     .000
                out <=    5.0 01:W3-LID         1.27     .001 1973.0317_ 7:50  344.93  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     5.03     .327 1973.0808_20:00  344.92  n/a     .000
     {MxStoUsed=.9591E-02  m3, TotOvfVol=.1734E+01  m3, N-Ovf=  115, TotDurOvf=  196.hrs}
R0073:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .457 1973.0611_17:00  364.28 .489     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0073:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .457 1973.0611_17:00  364.28  n/a     .000
                out <=    5.0 01:W4-LID         1.67     .001 1973.0317_ 7:50  364.28  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     6.51     .445 1973.0611_17:00  364.28  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.2372E+01  m3, N-Ovf=  115, TotDurOvf=  197.hrs}
R0073:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .542 1973.0611_17:00  400.85  n/a     .000
                     +    5.0 02:W2            10.75     .644 1973.0611_17:00  396.04  n/a     .000
                     +    5.0 02:W3             6.30     .338 1973.0808_20:00  344.92  n/a     .000
                     +    5.0 02:W4             8.18     .457 1973.0611_17:00  364.28  n/a     .000
                  SUM=    5.0 01:BCD-PH3       34.15    1.977 1973.0611_17:00  380.26  n/a     .000
R0073:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.84     .532 1973.0611_17:00  400.85  n/a     .000
                     +    5.0 02:W2-LID-Out     8.38     .632 1973.0611_17:00  396.04  n/a     .000
                     +    5.0 02:W3-LID-Out     5.03     .327 1973.0808_20:00  344.92  n/a     .000
                     +    5.0 02:W4-LID-Out     6.51     .445 1973.0611_17:00  364.28  n/a     .000
                  SUM=    5.0 01:BCD-PH3-LI    26.76    1.935 1973.0611_17:00  379.94  n/a     .000
```

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#*************************************************************************************************************
#                   Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*************************************************************************************************************
#                   Set infiltration to 0 (CN = 99.99) for water balance analysis
#*************************************************************************************************************
R0073:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .702 1973.0611_17:00  493.83 .663     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0073:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .842 1973.0611_17:00  491.61 .660     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0073:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .492 1973.0611_17:00  476.58 .640     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0073:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .641 1973.0611_17:00  485.56 .652     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0073:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .702 1973.0611_17:00  493.83  n/a     .000
                   +      5.0 02:INF-W2        10.75     .842 1973.0611_17:00  491.61  n/a     .000
                   +      5.0 02:INF-W3         6.30     .492 1973.0611_17:00  476.58  n/a     .000
                   +      5.0 02:INF-W4         8.18     .641 1973.0611_17:00  485.56  n/a     .000
                SUM=      5.0 01:INF-BCD-PH    34.15    2.677 1973.0611_17:00  487.97  n/a     .000
##################################################################################
# CONTINUOUS RAINFALL DATA
##################################################################################
  ** END OF RUN :   73

*****************************************************************************************************






 RUN#:COMMAND#
R0074:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19740101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0074 ]
#*************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0074:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                            ]
      [Start_date= 1974.0101: End_date= 1974.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  320: DryHrs= 8440: PTOT= 386.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       20.60    15.40    10.37     5.18     2.98     1.63     1.08      .81      .54    mm/hr
       20.60    30.80    31.10    31.10    35.70    39.00    39.00    39.00    39.00    mm
      19740718 19740719 19740719 19740719 19740305 19740305 19740306 19740306 19740307  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         129      105       93       77       63       50       38       33       23
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         128       66       32       10        3        0        0        0        0
```

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R0074:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 52.93: APIavg= 11.36: APImin=   .00}
#**************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************
R0074:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .343 1974.0719_ 0:00  183.65 .476     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0074:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .343 1974.0719_ 0:00  183.65  n/a     .000
                out <=    5.0 01:W1-LID         3.10     .001 1974.0222_14:45  183.65  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     5.82     .340 1974.0719_ 0:00  183.65  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.1069E+01  m3, N-Ovf=   77, TotDurOvf=   95.hrs}
R0074:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .407 1974.0719_ 0:00  181.19 .469     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0074:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .407 1974.0719_ 0:00  181.19  n/a     .000
                out <=    5.0 01:W2-LID         3.53     .001 1974.0222_14:30  181.19  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     7.22     .403 1974.0719_ 0:00  181.19  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.1309E+01  m3, N-Ovf=   88, TotDurOvf=  101.hrs}
R0074:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .201 1974.0719_ 0:00  153.93 .399     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0074:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .201 1974.0719_ 0:00  153.93  n/a     .000
                out <=    5.0 01:W3-LID         1.95     .001 1974.0222_14:30  153.93  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     4.35     .199 1974.0719_ 0:00  153.93  n/a     .000
     {MxStoUsed=.9595E-02  m3, TotOvfVol=.6700E+00  m3, N-Ovf=   85, TotDurOvf=  103.hrs}
R0074:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .278 1974.0719_ 0:00  163.80 .424     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0074:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .278 1974.0719_ 0:00  163.80  n/a     .000
                out <=    5.0 01:W4-LID         2.53     .001 1974.0222_14:25  163.80  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     5.65     .275 1974.0719_ 0:00  163.80  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.9248E+00  m3, N-Ovf=   91, TotDurOvf=  103.hrs}
R0074:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .343 1974.0719_ 0:00  183.65  n/a     .000
                    +     5.0 02:W2            10.75     .407 1974.0719_ 0:00  181.19  n/a     .000
                    +     5.0 02:W3             6.30     .201 1974.0719_ 0:00  153.93  n/a     .000
                    +     5.0 02:W4             8.18     .278 1974.0719_ 0:00  163.80  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15    1.229 1974.0719_ 0:00  172.64  n/a     .000
R0074:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     5.82     .340 1974.0719_ 0:00  183.65  n/a     .000
                    +     5.0 02:W2-LID-Out     7.22     .403 1974.0719_ 0:00  181.19  n/a     .000
                    +     5.0 02:W3-LID-Out     4.35     .199 1974.0719_ 0:00  153.93  n/a     .000
                    +     5.0 02:W4-LID-Out     5.65     .275 1974.0719_ 0:00  163.80  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    23.05    1.217 1974.0719_ 0:00  172.40  n/a     .000
#**************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
```

```
#**************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************
R0074:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .453 1974.0719_ 0:00  221.72 .574     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0074:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .530 1974.0719_ 0:00  220.25 .570     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0074:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .312 1974.0719_ 0:00  209.53 .543     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0074:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .410 1974.0719_ 0:00  215.51 .558     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0074:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .453 1974.0719_ 0:00  221.72  n/a     .000
                    +     5.0 02:INF-W2        10.75     .530 1974.0719_ 0:00  220.25  n/a     .000
                    +     5.0 02:INF-W3         6.30     .312 1974.0719_ 0:00  209.53  n/a     .000
                    +     5.0 02:INF-W4         8.18     .410 1974.0719_ 0:00  215.51  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.705 1974.0719_ 0:00  217.52  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   74

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 RUN#:COMMAND#
R0075:C00001---------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19750101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0075 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0075:C00002---------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                        ]
      [Start_date= 1975.0101: End_date= 1975.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  344: DryHrs= 8416: PTOT= 535.50}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       34.80    18.40    12.53     6.32     3.33     1.73     1.15      .87      .62   mm/hr
       34.80    36.80    37.60    37.90    40.00    41.50    41.50    41.80    44.40   mm
      19750708 19750720 19750720 19750720 19750721 19750721 19750721 19750721 19750928  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         136      118       99       78       61       49       40       33       25
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         135       70       40       17        1        0        0        0        0
R0075:C00003---------------------------------------------------------------------------------------
     COMPUTE API
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      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 73.23: APIavg= 15.16: APImin=   .00}
#*****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*****************************************************************************************************
R0075:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .621 1975.0708_17:00  284.52 .531     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0075:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .621 1975.0708_17:00  284.52  n/a     .000
                out <=    5.0 01:W1-LID         2.36     .001 1975.0109_ 8:40  284.53  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.56     .609 1975.0708_17:00  284.52  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.1866E+01  m3, N-Ovf=   92, TotDurOvf=  117.hrs}
R0075:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .738 1975.0708_17:00  280.95 .525     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0075:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .738 1975.0708_17:00  280.95  n/a     .000
                out <=    5.0 01:W2-LID         2.68     .001 1975.0109_ 8:35  280.95  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     8.07     .724 1975.0708_17:00  280.95  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.2268E+01  m3, N-Ovf=  100, TotDurOvf=  122.hrs}
R0075:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .380 1975.0708_17:00  242.53 .453     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0075:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .380 1975.0708_17:00  242.53  n/a     .000
                out <=    5.0 01:W3-LID         1.45     .001 1975.0109_ 8:35  242.53  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     4.85     .369 1975.0708_17:00  242.53  n/a     .000
     {MxStoUsed=.9598E-02  m3, TotOvfVol=.1177E+01  m3, N-Ovf=  101, TotDurOvf=  126.hrs}
R0075:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .520 1975.0708_17:00  256.91 .480     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0075:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .520 1975.0708_17:00  256.91  n/a     .000
                out <=    5.0 01:W4-LID         1.89     .001 1975.0109_ 8:35  256.91  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     6.29     .506 1975.0708_17:00  256.91  n/a     .000
     {MxStoUsed=.1308E-01  m3, TotOvfVol=.1615E+01  m3, N-Ovf=  106, TotDurOvf=  126.hrs}
R0075:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .621 1975.0708_17:00  284.52  n/a     .000
                    +     5.0 02:W2            10.75     .738 1975.0708_17:00  280.95  n/a     .000
                    +     5.0 02:W3             6.30     .380 1975.0708_17:00  242.53  n/a     .000
                    +     5.0 02:W4             8.18     .520 1975.0708_17:00  256.91  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15    2.258 1975.0708_17:00  269.04  n/a     .000
R0075:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.56     .609 1975.0708_17:00  284.52  n/a     .000
                    +     5.0 02:W2-LID-Out     8.07     .724 1975.0708_17:00  280.95  n/a     .000
                    +     5.0 02:W3-LID-Out     4.85     .369 1975.0708_17:00  242.53  n/a     .000
                    +     5.0 02:W4-LID-Out     6.29     .506 1975.0708_17:00  256.91  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    25.77    2.208 1975.0708_17:00  268.76  n/a     .000
#*****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
```

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#*************************************************************************************************************
R0075:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .819 1975.0708_17:00  348.61 .651     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0075:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .982 1975.0708_17:00  346.77 .648     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0075:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .587 1975.0708_17:00  334.63 .625     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0075:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .763 1975.0708_17:00  342.11 .639     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0075:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .819 1975.0708_17:00  348.61  n/a     .000
                   +      5.0 02:INF-W2        10.75     .982 1975.0708_17:00  346.77  n/a     .000
                   +      5.0 02:INF-W3         6.30     .587 1975.0708_17:00  334.63  n/a     .000
                   +      5.0 02:INF-W4         8.18     .763 1975.0708_17:00  342.11  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    3.151 1975.0708_17:00  343.90  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :    75

***************************************************************************************************





 RUN#:COMMAND#
R0076:C00001---------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19760101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0076 ]
#*************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0076:C00002---------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1976.0101: End_date= 1976.1230]
      {DT= 60.min: Length= 8064.hrs: WetHrs=  390: DryHrs= 7674: PTOT= 493.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       14.00     8.90     6.43     4.65     2.35     1.39      .97      .99      .80    mm/hr
       14.00    17.80    19.30    27.90    28.20    33.30    35.10    47.60    57.50    mm
      19760828 19760828 19760828 19760828 19760828 19760920 19760520 19760520 19760921  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         164      133      117       89       72       62       46       40       28
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         163       80       47       15        2        0        0        0        0
R0076:C00003---------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 59.66: APIavg= 15.35: APImin=   .02}
```

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#*******************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*******************************************************************************************************
R0076:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1            8.92     .228 1976.0828_19:00  239.90 .486     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0076:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .228 1976.0828_19:00  239.90  n/a     .000
                out <=    5.0 01:W1-LID        2.77     .001 1976.0331_15:15  239.90  n/a     .000
           overflow <=    5.0 03:W1-LID-Out    6.15     .226 1976.0828_19:00  239.90  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.1476E+01  m3, N-Ovf=  119, TotDurOvf=  137.hrs}
R0076:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .270 1976.0828_19:00  236.79 .480     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0076:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .270 1976.0828_19:00  236.79  n/a     .000
                out <=    5.0 01:W2-LID        3.15     .001 1976.0331_15:10  236.79  n/a     .000
           overflow <=    5.0 03:W2-LID-Out    7.60     .267 1976.0828_19:00  236.79  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.1799E+01  m3, N-Ovf=  122, TotDurOvf=  144.hrs}
R0076:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .132 1976.0828_19:00  202.95 .411     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0076:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .132 1976.0828_19:00  202.95  n/a     .000
                out <=    5.0 01:W3-LID        1.73     .001 1976.0331_15:10  202.95  n/a     .000
           overflow <=    5.0 03:W3-LID-Out    4.57     .130 1976.0828_19:00  202.95  n/a     .000
     {MxStoUsed=.9600E-02  m3, TotOvfVol=.9275E+00  m3, N-Ovf=  117, TotDurOvf=  151.hrs}
R0076:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .183 1976.0828_19:00  215.45 .437     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0076:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .183 1976.0828_19:00  215.45  n/a     .000
                out <=    5.0 01:W4-LID        2.25     .001 1976.0331_15:10  215.45  n/a     .000
           overflow <=    5.0 03:W4-LID-Out    5.93     .181 1976.0828_19:00  215.45  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1277E+01  m3, N-Ovf=  121, TotDurOvf=  150.hrs}
R0076:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .228 1976.0828_19:00  239.90  n/a     .000
                    +     5.0 02:W2           10.75     .270 1976.0828_19:00  236.79  n/a     .000
                    +     5.0 02:W3            6.30     .132 1976.0828_19:00  202.95  n/a     .000
                    +     5.0 02:W4            8.18     .183 1976.0828_19:00  215.45  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15     .813 1976.0828_19:00  226.25  n/a     .000
R0076:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.15     .226 1976.0828_19:00  239.90  n/a     .000
                    +     5.0 02:W2-LID-Out    7.60     .267 1976.0828_19:00  236.79  n/a     .000
                    +     5.0 02:W3-LID-Out    4.57     .130 1976.0828_19:00  202.95  n/a     .000
                    +     5.0 02:W4-LID-Out    5.93     .181 1976.0828_19:00  215.45  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   24.25     .805 1976.0828_19:00  225.99  n/a     .000
#*******************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*******************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*******************************************************************************************************
R0076:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .280 1976.0828_19:00  291.65 .591     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0076:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .326 1976.0828_19:00  289.91 .588     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0076:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .187 1976.0828_19:00  277.98 .564     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0076:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .249 1976.0828_19:00  285.07 .578     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0076:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .280 1976.0828_19:00  291.65  n/a     .000
                     +    5.0 02:INF-W2        10.75     .326 1976.0828_19:00  289.91  n/a     .000
                     +    5.0 02:INF-W3         6.30     .187 1976.0828_19:00  277.98  n/a     .000
                     +    5.0 02:INF-W4         8.18     .249 1976.0828_19:00  285.07  n/a     .000
                  SUM=    5.0 01:INF-BCD-PH    34.15    1.042 1976.0828_19:00  287.00  n/a     .000
#################################################################################
# CONTINUOUS RAINFALL DATA
#################################################################################
  ** END OF RUN :    76

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 RUN#:COMMAND#
R0077:C00001-----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19770101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0077 ]
#****************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#****************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#****************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0077:C00002-----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                              ]
      [Start_date= 1977.0101: End_date= 1977.1231]
      {DT= 60.min: Length= 8016.hrs: WetHrs=  512: DryHrs= 7504: PTOT= 677.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       21.30    15.20    10.40     6.53     3.30     1.66     1.40     1.06      .73    mm/hr
       21.30    30.40    31.20    39.20    39.60    39.80    50.40    51.00    52.40    mm
      19770717 19770717 19770717 19770901 19770902 19770314 19770314 19770314 19770718  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         172      142      126       99       78       63       53       42       30
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         171       88       60       22        5        1        0        0        0
R0077:C00003-----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 74.80: APIavg= 20.62: APImin=  1.63}
#****************************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
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#***************************************************************************************************
R0077:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1            8.92     .368 1977.0717_16:00  365.11 .539     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0077:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .368 1977.0717_16:00  365.11  n/a     .000
                out <=    5.0 01:W1-LID        2.42     .001 1977.0304_20:50  365.12  n/a     .000
           overflow <=    5.0 03:W1-LID-Out    6.50     .364 1977.0717_16:00  365.11  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2374E+01  m3, N-Ovf=  124, TotDurOvf=  211.hrs}
R0077:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .437 1977.0717_16:00  360.57 .532     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0077:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .437 1977.0717_16:00  360.57  n/a     .000
                out <=    5.0 01:W2-LID        2.74     .001 1977.0304_20:50  360.56  n/a     .000
           overflow <=    5.0 03:W2-LID-Out    8.01     .432 1977.0717_16:00  360.57  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2888E+01  m3, N-Ovf=  130, TotDurOvf=  217.hrs}
R0077:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .229 1977.0901_23:00  311.46 .460     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0077:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .229 1977.0901_23:00  311.46  n/a     .000
                out <=    5.0 01:W3-LID        1.48     .001 1977.0304_20:45  311.47  n/a     .000
           overflow <=    5.0 03:W3-LID-Out    4.82     .224 1977.0901_23:00  311.46  n/a     .000
     {MxStoUsed=.9598E-02  m3, TotOvfVol=.1501E+01  m3, N-Ovf=  127, TotDurOvf=  222.hrs}
R0077:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .309 1977.0901_23:00  329.71 .486     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0077:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .309 1977.0901_23:00  329.71  n/a     .000
                out <=    5.0 01:W4-LID        1.94     .001 1977.0304_20:45  329.72  n/a     .000
           overflow <=    5.0 03:W4-LID-Out    6.24     .302 1977.0901_23:00  329.71  n/a     .000
     {MxStoUsed=.1309E-01  m3, TotOvfVol=.2058E+01  m3, N-Ovf=  133, TotDurOvf=  222.hrs}
R0077:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .368 1977.0717_16:00  365.11  n/a     .000
                    +     5.0 02:W2           10.75     .437 1977.0717_16:00  360.57  n/a     .000
                    +     5.0 02:W3            6.30     .229 1977.0901_23:00  311.46  n/a     .000
                    +     5.0 02:W4            8.18     .309 1977.0901_23:00  329.71  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15    1.330 1977.0717_16:00  345.30  n/a     .000
R0077:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.50     .364 1977.0717_16:00  365.11  n/a     .000
                    +     5.0 02:W2-LID-Out    8.01     .432 1977.0717_16:00  360.57  n/a     .000
                    +     5.0 02:W3-LID-Out    4.82     .224 1977.0901_23:00  311.46  n/a     .000
                    +     5.0 02:W4-LID-Out    6.24     .302 1977.0901_23:00  329.71  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   25.57    1.312 1977.0717_16:00  344.94  n/a     .000
#***************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#***************************************************************************************************
#                 Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************
R0077:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .484 1977.0717_16:00  446.64 .659     .000
      [XIMP=.66:TIMP=.71]
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      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0077:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .569 1977.0717_16:00  444.31 .656     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0077:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .337 1977.0717_16:00  428.34 .632     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0077:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .440 1977.0717_16:00  437.81 .646     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0077:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .484 1977.0717_16:00  446.64  n/a     .000
                    +     5.0 02:INF-W2        10.75     .569 1977.0717_16:00  444.31  n/a     .000
                    +     5.0 02:INF-W3         6.30     .337 1977.0717_16:00  428.34  n/a     .000
                    +     5.0 02:INF-W4         8.18     .440 1977.0717_16:00  437.81  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.830 1977.0717_16:00  440.41  n/a     .000
##############################################################################
# CONTINUOUS RAINFALL DATA
##############################################################################
  ** END OF RUN :   77

*****************************************************************************************





 RUN#:COMMAND#
R0078:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19780101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0078 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0078:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1978.0101: End_date= 1978.1231]
      {DT= 60.min: Length= 8040.hrs: WetHrs=  409: DryHrs= 7631: PTOT= 641.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       36.00    18.15    12.10     6.05     3.04     1.64     1.13      .87      .58    mm/hr
       36.00    36.30    36.30    36.30    36.50    39.40    40.60    41.60    41.60    mm
      19780618 19780618 19780618 19780618 19780619 19780411 19780412 19780620 19780621  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         154      128      118       97       71       58       51       46       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         154       75       44       18        5        0        0        0        0
R0078:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 65.36: APIavg= 19.25: APImin=   .25}
#***************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0078:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

```
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .670 1978.0618_17:00  347.07 .541     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0078:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .670 1978.0618_17:00  347.07  n/a     .000
                out <=    5.0 01:W1-LID         2.39     .001 1978.0108_ 3:30  347.08  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.53     .656 1978.0618_17:00  347.07  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2267E+01  m3, N-Ovf=  106, TotDurOvf=  160.hrs}
R0078:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .797 1978.0618_17:00  342.55 .534     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0078:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .797 1978.0618_17:00  342.55  n/a     .000
                out <=    5.0 01:W2-LID         2.73     .001 1978.0108_ 3:25  342.54  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     8.02     .780 1978.0618_17:00  342.55  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2749E+01  m3, N-Ovf=  106, TotDurOvf=  164.hrs}
R0078:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .423 1978.0618_17:00  292.83 .457     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0078:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .423 1978.0618_17:00  292.83  n/a     .000
                out <=    5.0 01:W3-LID         1.51     .001 1978.0108_ 3:25  292.83  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     4.79     .408 1978.0618_17:00  292.83  n/a     .000
     {MxStoUsed=.9597E-02  m3, TotOvfVol=.1404E+01  m3, N-Ovf=  113, TotDurOvf=  167.hrs}
R0078:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .573 1978.0618_17:00  311.01 .485     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0078:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .573 1978.0618_17:00  311.01  n/a     .000
                out <=    5.0 01:W4-LID         1.96     .001 1978.0108_ 3:25  311.01  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     6.22     .555 1978.0618_17:00  311.01  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1935E+01  m3, N-Ovf=  103, TotDurOvf=  167.hrs}
R0078:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .670 1978.0618_17:00  347.07  n/a     .000
                    +     5.0 02:W2            10.75     .797 1978.0618_17:00  342.55  n/a     .000
                    +     5.0 02:W3             6.30     .423 1978.0618_17:00  292.83  n/a     .000
                    +     5.0 02:W4             8.18     .573 1978.0618_17:00  311.01  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15    2.462 1978.0618_17:00  327.00  n/a     .000
R0078:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.53     .656 1978.0618_17:00  347.07  n/a     .000
                    +     5.0 02:W2-LID-Out     8.02     .780 1978.0618_17:00  342.55  n/a     .000
                    +     5.0 02:W3-LID-Out     4.79     .408 1978.0618_17:00  292.83  n/a     .000
                    +     5.0 02:W4-LID-Out     6.22     .555 1978.0618_17:00  311.01  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    25.57    2.400 1978.0618_17:00  326.71  n/a     .000
#*****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0078:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .856 1978.0618_17:00  429.43 .670     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
```

```
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0078:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75    1.028 1978.0618_17:00  427.15 .666     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0078:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .611 1978.0618_17:00  410.75 .640     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0078:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .794 1978.0618_17:00  420.01 .655     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0078:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .856 1978.0618_17:00  429.43  n/a     .000
                    +     5.0 02:INF-W2        10.75    1.028 1978.0618_17:00  427.15  n/a     .000
                    +     5.0 02:INF-W3         6.30     .611 1978.0618_17:00  410.75  n/a     .000
                    +     5.0 02:INF-W4         8.18     .794 1978.0618_17:00  420.01  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    3.289 1978.0618_17:00  423.01  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   78

****************************************************************************************************






 RUN#:COMMAND#
R0079:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19790101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0079 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0079:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                                    ]
      [Start_date= 1979.0101: End_date= 1979.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  546: DryHrs= 8214: PTOT= 866.50}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       34.90    22.00    14.67     7.33     5.14     2.63     1.75     1.31      .88    mm/hr
       34.90    44.00    44.00    44.00    61.70    63.00    63.00    63.00    63.00    mm
      19790616 19790616 19790616 19790616 19790914 19790915 19790915 19790915 19790917  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         188      147      129      103       86       60       53       43       36
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         187       97       65       25        6        1        0        0        0
R0079:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 78.42: APIavg= 23.13: APImin=   .13}
#***************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0079:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .682 1979.0616_14:00  506.86 .585     .000
      [XIMP=.66:TIMP=.71]
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```
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0079:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W1            8.92     .682 1979.0616_14:00  506.86  n/a     .000
                 out <=    5.0 01:W1-LID        1.79     .001 1979.0101_19:55  506.87  n/a     .000
            overflow <=    5.0 03:W1-LID-Out    7.13     .665 1979.0616_14:00  506.86  n/a     .000
      {MxStoUsed=.1790E-01  m3, TotOvfVol=.3613E+01  m3, N-Ovf=  122, TotDurOvf=  209.hrs}
R0079:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W2           10.75     .813 1979.0616_14:00  501.22 .578     .000
       [XIMP=.65:TIMP=.70]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0079:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W2           10.75     .813 1979.0616_14:00  501.22  n/a     .000
                 out <=    5.0 01:W2-LID        2.03     .001 1979.0101_19:40  501.21  n/a     .000
            overflow <=    5.0 03:W2-LID-Out    8.72     .793 1979.0616_14:00  501.22  n/a     .000
      {MxStoUsed=.2000E-01  m3, TotOvfVol=.4370E+01  m3, N-Ovf=  128, TotDurOvf=  213.hrs}
R0079:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W3            6.30     .460 1979.0616_14:00  442.52 .511     .000
       [XIMP=.53:TIMP=.63]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0079:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W3            6.30     .460 1979.0616_14:00  442.52  n/a     .000
                 out <=    5.0 01:W3-LID        1.08     .001 1979.0101_19:30  442.52  n/a     .000
            overflow <=    5.0 03:W3-LID-Out    5.22     .438 1979.0616_14:00  442.52  n/a     .000
      {MxStoUsed=.9598E-02  m3, TotOvfVol=.2310E+01  m3, N-Ovf=  126, TotDurOvf=  216.hrs}
R0079:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W4            8.18     .594 1979.0616_14:00  465.26 .537     .000
       [XIMP=.57:TIMP=.67]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0079:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W4            8.18     .594 1979.0616_14:00  465.26  n/a     .000
                 out <=    5.0 01:W4-LID        1.42     .001 1979.0101_19:35  465.27  n/a     .000
            overflow <=    5.0 03:W4-LID-Out    6.76     .574 1979.0616_14:00  465.26  n/a     .000
      {MxStoUsed=.1310E-01  m3, TotOvfVol=.3145E+01  m3, N-Ovf=  124, TotDurOvf=  218.hrs}
R0079:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:W1            8.92     .682 1979.0616_14:00  506.86  n/a     .000
                     +     5.0 02:W2           10.75     .813 1979.0616_14:00  501.22  n/a     .000
                     +     5.0 02:W3            6.30     .460 1979.0616_14:00  442.52  n/a     .000
                     +     5.0 02:W4            8.18     .594 1979.0616_14:00  465.26  n/a     .000
                  SUM=     5.0 01:BCD-PH3      34.15    2.549 1979.0616_14:00  483.25  n/a     .000
R0079:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:W1-LID-Out    7.13     .665 1979.0616_14:00  506.86  n/a     .000
                     +     5.0 02:W2-LID-Out    8.72     .793 1979.0616_14:00  501.22  n/a     .000
                     +     5.0 02:W3-LID-Out    5.22     .438 1979.0616_14:00  442.52  n/a     .000
                     +     5.0 02:W4-LID-Out    6.76     .574 1979.0616_14:00  465.26  n/a     .000
                  SUM=     5.0 01:BCD-PH3-LI   27.83    2.470 1979.0616_14:00  482.92  n/a     .000
#*************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*************************************************************************************************
R0079:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .850 1979.0616_14:00  620.26 .716     .000
       [XIMP=.66:TIMP=.71]
       [LOSS= 2 :CN=100.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
```

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      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0079:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75    1.022 1979.0616_14:00  617.83 .713     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0079:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .607 1979.0616_14:00  601.90 .695     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0079:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .786 1979.0616_14:00  611.76 .706     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0079:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .850 1979.0616_14:00  620.26  n/a     .000
                    +     5.0 02:INF-W2        10.75    1.022 1979.0616_14:00  617.83  n/a     .000
                    +     5.0 02:INF-W3         6.30     .607 1979.0616_14:00  601.90  n/a     .000
                    +     5.0 02:INF-W4         8.18     .786 1979.0616_14:00  611.76  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    3.266 1979.0616_14:00  614.07  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   79

****************************************************************************************************





 RUN#:COMMAND#
R0080:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19800101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0080 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0080:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1980.0101: End_date= 1980.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  427: DryHrs= 8333: PTOT= 622.00}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       15.00     9.20     6.50     4.72     3.57     1.97     1.35     1.01      .86    mm/hr
       15.00    18.40    19.50    28.30    42.80    47.20    48.60    48.60    62.00    mm
      19800830 19800830 19801025 19801025 19801026 19801026 19801026 19801027 19800902  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         151      125      112       93       79       62       49       44       28
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         150       85       54       16        4        0        0        0        0
R0080:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 68.72: APIavg= 17.50: APImin=   .06}
#***************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0080:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .246 1980.0830_14:00  333.35 .536     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
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      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0080:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .246 1980.0830_14:00  333.35  n/a     .000
               out <=    5.0 01:W1-LID         2.37     .001 1980.0111_21:10  333.36  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.55     .244 1980.0830_14:00  333.35  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.2183E+01  m3, N-Ovf=  117, TotDurOvf=  162.hrs}
R0080:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .291 1980.0830_14:00  329.13 .529     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0080:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .291 1980.0830_14:00  329.13  n/a     .000
               out <=    5.0 01:W2-LID         2.71     .001 1980.0111_21:05  329.12  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     8.04     .288 1980.0830_14:00  329.13  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2647E+01  m3, N-Ovf=  128, TotDurOvf=  168.hrs}
R0080:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .143 1980.0830_14:00  283.32 .456     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0080:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .143 1980.0830_14:00  283.32  n/a     .000
               out <=    5.0 01:W3-LID         1.48     .001 1980.0111_21:05  283.33  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     4.82     .142 1980.0830_14:00  283.32  n/a     .000
     {MxStoUsed=.9601E-02  m3, TotOvfVol=.1366E+01  m3, N-Ovf=  128, TotDurOvf=  173.hrs}
R0080:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .198 1980.0830_14:00  300.36 .483     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0080:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .198 1980.0830_14:00  300.36  n/a     .000
               out <=    5.0 01:W4-LID         1.93     .001 1980.0111_21:05  300.36  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     6.25     .196 1980.0830_14:00  300.36  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1877E+01  m3, N-Ovf=  128, TotDurOvf=  172.hrs}
R0080:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .246 1980.0830_14:00  333.35  n/a     .000
                   +      5.0 02:W2           10.75     .291 1980.0830_14:00  329.13  n/a     .000
                   +      5.0 02:W3            6.30     .143 1980.0830_14:00  283.32  n/a     .000
                   +      5.0 02:W4            8.18     .198 1980.0830_14:00  300.36  n/a     .000
                SUM=      5.0 01:BCD-PH3      34.15     .879 1980.0830_14:00  314.89  n/a     .000
R0080:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.55     .244 1980.0830_14:00  333.35  n/a     .000
                   +      5.0 02:W2-LID-Out     8.04     .288 1980.0830_14:00  329.13  n/a     .000
                   +      5.0 02:W3-LID-Out     4.82     .142 1980.0830_14:00  283.32  n/a     .000
                   +      5.0 02:W4-LID-Out     6.25     .196 1980.0830_14:00  300.36  n/a     .000
                SUM=      5.0 01:BCD-PH3-LI    25.66     .869 1980.0830_14:00  314.59  n/a     .000
#**************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#**************************************************************************************************
#                 Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************
R0080:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .304 1980.0830_14:00  408.33 .656     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0080:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .362 1980.0830_14:00  406.13 .653     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0080:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .204 1980.0830_14:00  390.89 .628     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0080:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .271 1980.0830_14:00  399.88 .643     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0080:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .304 1980.0830_14:00  408.33  n/a     .000
                    +     5.0 02:INF-W2        10.75     .362 1980.0830_14:00  406.13  n/a     .000
                    +     5.0 02:INF-W3         6.30     .204 1980.0830_14:00  390.89  n/a     .000
                    +     5.0 02:INF-W4         8.18     .271 1980.0830_14:00  399.88  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.141 1980.0830_14:00  402.39  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   80

****************************************************************************************************





 RUN#:COMMAND#
R0081:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19810101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0081 ]
#***************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#***************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0081:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                         ]
      [Start_date= 1981.0101: End_date= 1981.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  641: DryHrs= 8119: PTOT= 936.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       35.30    31.85    26.20    18.15     9.27     4.83     3.22     2.41     1.62     mm/hr
       35.30    63.70    78.60   108.90   111.30   115.90   115.90   115.90   116.70     mm
      19810805 19810805 19810805 19810805 19810805 19810805 19810806 19810806 19810805  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         226      171      136      109       83       68       59       47       30
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         225      128       79       28        7        0        0        0        0
R0081:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax=123.49: APIavg= 25.69: APImin=   .26}
#***************************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************************
R0081:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .847 1981.0805_ 2:00  545.48 .583     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
```

```
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0081:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .847 1981.0805_ 2:00  545.48  n/a     .000
                out <=    5.0 01:W1-LID        1.94     .001 1981.0202_12:35  545.48  n/a     .000
           overflow <=    5.0 03:W1-LID-Out    6.98     .832 1981.0805_ 2:05  545.48  n/a     .000
     {MxStoUsed=.1788E-01  m3, TotOvfVol=.3806E+01  m3, N-Ovf=  145, TotDurOvf=  218.hrs}
R0081:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75    1.017 1981.0805_ 2:00  539.83 .577     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0081:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75    1.017 1981.0805_ 2:00  539.83  n/a     .000
                out <=    5.0 01:W2-LID        2.20     .001 1981.0202_12:25  539.82  n/a     .000
           overflow <=    5.0 03:W2-LID-Out    8.55    1.002 1981.0805_ 2:05  539.83  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.4616E+01  m3, N-Ovf=  149, TotDurOvf=  224.hrs}
R0081:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .600 1981.0805_ 2:00  481.48 .514     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0081:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .600 1981.0805_ 2:00  481.48  n/a     .000
                out <=    5.0 01:W3-LID        1.15     .001 1981.0202_12:15  481.49  n/a     .000
           overflow <=    5.0 03:W3-LID-Out    5.15     .572 1981.0805_ 2:00  481.48  n/a     .000
     {MxStoUsed=.9601E-02  m3, TotOvfVol=.2479E+01  m3, N-Ovf=  151, TotDurOvf=  228.hrs}
R0081:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .781 1981.0805_ 2:00  504.22 .538     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0081:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .781 1981.0805_ 2:00  504.22  n/a     .000
                out <=    5.0 01:W4-LID        1.53     .001 1981.0202_12:15  504.22  n/a     .000
           overflow <=    5.0 03:W4-LID-Out    6.65     .777 1981.0805_ 2:05  504.22  n/a     .000
     {MxStoUsed=.1308E-01  m3, TotOvfVol=.3355E+01  m3, N-Ovf=  153, TotDurOvf=  227.hrs}
R0081:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .847 1981.0805_ 2:00  545.48  n/a     .000
                    +     5.0 02:W2           10.75    1.017 1981.0805_ 2:00  539.83  n/a     .000
                    +     5.0 02:W3            6.30     .600 1981.0805_ 2:00  481.48  n/a     .000
                    +     5.0 02:W4            8.18     .781 1981.0805_ 2:00  504.22  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15    3.245 1981.0805_ 2:00  522.01  n/a     .000
R0081:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.98     .832 1981.0805_ 2:05  545.48  n/a     .000
                    +     5.0 02:W2-LID-Out    8.55    1.002 1981.0805_ 2:05  539.83  n/a     .000
                    +     5.0 02:W3-LID-Out    5.15     .572 1981.0805_ 2:00  481.48  n/a     .000
                    +     5.0 02:W4-LID-Out    6.65     .777 1981.0805_ 2:05  504.22  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   27.33    3.178 1981.0805_ 2:05  521.61  n/a     .000
#*****************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0081:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .875 1981.0805_ 2:00  650.22 .694     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0081:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75    1.055 1981.0805_ 2:00  647.50 .691     .000
      [XIMP=.65:TIMP=.70]
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      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0081:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .621 1981.0805_ 2:00  629.67 .672     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0081:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .805 1981.0805_ 2:00  640.67 .684     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0081:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .875 1981.0805_ 2:00  650.22  n/a     .000
                    +     5.0 02:INF-W2        10.75    1.055 1981.0805_ 2:00  647.50  n/a     .000
                    +     5.0 02:INF-W3         6.30     .621 1981.0805_ 2:00  629.67  n/a     .000
                    +     5.0 02:INF-W4         8.18     .805 1981.0805_ 2:00  640.67  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    3.356 1981.0805_ 2:00  643.29  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   81

****************************************************************************************************





 RUN#:COMMAND#
R0082:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19820101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0082 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0082:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1982.0101: End_date= 1982.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  436: DryHrs= 8324: PTOT= 596.10}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       19.80    10.75     7.60     5.83     3.36     1.68     1.12      .96      .80    mm/hr
       19.80    21.50    22.80    35.00    40.30    40.30    40.30    46.30    57.30    mm
      19820801 19820901 19820825 19820825 19820825 19820826 19820826 19820825 19820825  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         134      110       98       78       66       57       48       41       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         133       81       58       18        4        1        1        0        0
R0082:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 56.66: APIavg= 16.78: APImin=   .03}
#***************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0082:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .332 1982.0801_19:00  318.54 .534     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
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# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0082:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .332 1982.0801_19:00  318.54  n/a     .000
               out <=    5.0 01:W1-LID         2.61     .001 1982.0313_11:20  318.55  n/a     .000
          overflow <=    5.0 03:W1-LID-Out     6.31     .329 1982.0801_19:00  318.54  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2011E+01  m3, N-Ovf=  122, TotDurOvf=  176.hrs}
R0082:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .392 1982.0801_19:00  314.38 .527     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0082:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .392 1982.0801_19:00  314.38  n/a     .000
               out <=    5.0 01:W2-LID         2.96     .001 1982.0313_11:15  314.37  n/a     .000
          overflow <=    5.0 03:W2-LID-Out     7.79     .388 1982.0801_19:00  314.38  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2449E+01  m3, N-Ovf=  123, TotDurOvf=  184.hrs}
R0082:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .195 1982.0801_19:00  268.25 .450     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0082:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .195 1982.0801_19:00  268.25  n/a     .000
               out <=    5.0 01:W3-LID         1.64     .001 1982.0313_11:15  268.25  n/a     .000
          overflow <=    5.0 03:W3-LID-Out     4.66     .193 1982.0801_19:00  268.25  n/a     .000
     {MxStoUsed=.9596E-02  m3, TotOvfVol=.1251E+01  m3, N-Ovf=  138, TotDurOvf=  187.hrs}
R0082:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .270 1982.0801_19:00  285.01 .478     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0082:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .270 1982.0801_19:00  285.01  n/a     .000
               out <=    5.0 01:W4-LID         2.13     .001 1982.0313_11:15  285.01  n/a     .000
          overflow <=    5.0 03:W4-LID-Out     6.05     .266 1982.0801_19:00  285.01  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1726E+01  m3, N-Ovf=  135, TotDurOvf=  188.hrs}
R0082:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .332 1982.0801_19:00  318.54  n/a     .000
                    +     5.0 02:W2           10.75     .392 1982.0801_19:00  314.38  n/a     .000
                    +     5.0 02:W3            6.30     .195 1982.0801_19:00  268.25  n/a     .000
                    +     5.0 02:W4            8.18     .270 1982.0801_19:00  285.01  n/a     .000
                  SUM=    5.0 01:BCD-PH3      34.15    1.189 1982.0801_19:00  299.92  n/a     .000
R0082:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.31     .329 1982.0801_19:00  318.54  n/a     .000
                    +     5.0 02:W2-LID-Out    7.79     .388 1982.0801_19:00  314.38  n/a     .000
                    +     5.0 02:W3-LID-Out    4.66     .193 1982.0801_19:00  268.25  n/a     .000
                    +     5.0 02:W4-LID-Out    6.05     .266 1982.0801_19:00  285.01  n/a     .000
                  SUM=    5.0 01:BCD-PH3-LI   24.82    1.176 1982.0801_19:00  299.61  n/a     .000
#*****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0082:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .429 1982.0801_19:00  388.92 .652     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0082:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .512 1982.0801_19:00  386.61 .649     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
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      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0082:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .302 1982.0801_19:00  370.01 .621     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0082:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .396 1982.0801_19:00  379.41 .637     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0082:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .429 1982.0801_19:00  388.92  n/a     .000
                    +     5.0 02:INF-W2        10.75     .512 1982.0801_19:00  386.61  n/a     .000
                    +     5.0 02:INF-W3         6.30     .302 1982.0801_19:00  370.01  n/a     .000
                    +     5.0 02:INF-W4         8.18     .396 1982.0801_19:00  379.41  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.639 1982.0801_19:00  382.43  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   82

*********************************************************************************************






 RUN#:COMMAND#
R0083:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19830101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0083 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0083:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                           ]
      [Start_date= 1983.0101: End_date= 1983.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  462: DryHrs= 8298: PTOT= 587.50}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       10.40     9.70     7.53     5.43     3.18     2.36     1.68     1.32      .92    mm/hr
       10.40    19.40    22.60    32.60    38.20    56.70    60.40    63.20    66.00    mm
      19831004 19830921 19830921 19831005 19831005 19831005 19831005 19831006 19831008  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         143      115      103       85       70       55       50       45       35
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         142       87       56       28        5        0        0        0        0
R0083:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 79.86: APIavg= 16.57: APImin=   .05}
#***************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0083:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .196 1983.1005_15:00  305.95 .521     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
```

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# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0083:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->    5.0 02:W1            8.92     .196 1983.1005_15:00  305.95  n/a     .000
              out <=    5.0 01:W1-LID        2.68     .001 1983.0318_23:35  305.96  n/a     .000
          overflow <=    5.0 03:W1-LID-Out    6.24     .194 1983.1005_15:00  305.95  n/a     .000
    {MxStoUsed=.1790E-01  m3, TotOvfVol=.1910E+01  m3, N-Ovf=  128, TotDurOvf=  184.hrs}
R0083:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:W2           10.75     .234 1983.1005_15:00  302.07 .514     .000
     [XIMP=.65:TIMP=.70]
     [LOSS= 2 :CN= 71.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0083:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->    5.0 02:W2           10.75     .234 1983.1005_15:00  302.07  n/a     .000
              out <=    5.0 01:W2-LID        3.04     .001 1983.0318_23:35  302.06  n/a     .000
          overflow <=    5.0 03:W2-LID-Out    7.71     .231 1983.1005_15:00  302.07  n/a     .000
    {MxStoUsed=.1999E-01  m3, TotOvfVol=.2328E+01  m3, N-Ovf=  116, TotDurOvf=  191.hrs}
R0083:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:W3            6.30     .129 1983.1005_15:00  259.77 .442     .000
     [XIMP=.53:TIMP=.63]
     [LOSS= 2 :CN= 71.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0083:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->    5.0 02:W3            6.30     .129 1983.1005_15:00  259.77  n/a     .000
              out <=    5.0 01:W3-LID        1.67     .001 1983.0318_23:30  259.78  n/a     .000
          overflow <=    5.0 03:W3-LID-Out    4.63     .127 1983.1005_15:00  259.77  n/a     .000
    {MxStoUsed=.9592E-02  m3, TotOvfVol=.1203E+01  m3, N-Ovf=  125, TotDurOvf=  195.hrs}
R0083:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:W4            8.18     .173 1983.1005_15:00  275.42 .469     .000
     [XIMP=.57:TIMP=.67]
     [LOSS= 2 :CN= 71.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0083:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->    5.0 02:W4            8.18     .173 1983.1005_15:00  275.42  n/a     .000
              out <=    5.0 01:W4-LID        2.17     .001 1983.0318_23:35  275.42  n/a     .000
          overflow <=    5.0 03:W4-LID-Out    6.01     .171 1983.1005_15:05  275.42  n/a     .000
    {MxStoUsed=.1310E-01  m3, TotOvfVol=.1654E+01  m3, N-Ovf=  124, TotDurOvf=  195.hrs}
R0083:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:W1            8.92     .196 1983.1005_15:00  305.95  n/a     .000
                  +     5.0 02:W2           10.75     .234 1983.1005_15:00  302.07  n/a     .000
                  +     5.0 02:W3            6.30     .129 1983.1005_15:00  259.77  n/a     .000
                  +     5.0 02:W4            8.18     .173 1983.1005_15:00  275.42  n/a     .000
               SUM=     5.0 01:BCD-PH3      34.15     .732 1983.1005_15:00  288.90  n/a     .000
R0083:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:W1-LID-Out    6.24     .194 1983.1005_15:00  305.95  n/a     .000
                  +     5.0 02:W2-LID-Out    7.71     .231 1983.1005_15:00  302.07  n/a     .000
                  +     5.0 02:W3-LID-Out    4.63     .127 1983.1005_15:00  259.77  n/a     .000
                  +     5.0 02:W4-LID-Out    6.01     .171 1983.1005_15:05  275.42  n/a     .000
               SUM=     5.0 01:BCD-PH3-LI   24.58     .722 1983.1005_15:05  288.58  n/a     .000
#*****************************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************************
#                Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************************
R0083:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .242 1983.1005_15:00  370.31 .630     .000
     [XIMP=.66:TIMP=.71]
     [LOSS= 2 :CN=100.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0083:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .291 1983.1005_15:00  368.12 .627     .000
     [XIMP=.65:TIMP=.70]
     [LOSS= 2 :CN=100.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
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      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0083:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .171 1983.1005_15:00  353.08 .601     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0083:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .221 1983.1005_15:00  362.01 .616     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0083:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .242 1983.1005_15:00  370.31  n/a     .000
                    +     5.0 02:INF-W2        10.75     .291 1983.1005_15:00  368.12  n/a     .000
                    +     5.0 02:INF-W3         6.30     .171 1983.1005_15:00  353.08  n/a     .000
                    +     5.0 02:INF-W4         8.18     .221 1983.1005_15:00  362.01  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15     .925 1983.1005_15:00  364.45  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   83

****************************************************************************************************





 RUN#:COMMAND#
R0084:C00001--------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19840101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0084 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0084:C00002--------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                           ]
      [Start_date= 1984.0101: End_date= 1984.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  308: DryHrs= 8452: PTOT= 459.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       17.80     9.70     7.57     4.33     3.01     1.85     1.58     1.19     1.00     mm/hr
       17.80    19.40    22.70    26.00    36.10    44.30    57.00    57.00    72.20     mm
      19840812 19840812 19840812 19840806 19840812 19840813 19840813 19840814 19840813  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          98       80       75       63       55       48       40       34       26
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          97       58       39       11        3        1        0        0        0
R0084:C00003--------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 86.83: APIavg= 13.22: APImin=   .00}
#**************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************
R0084:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .314 1984.0812_ 7:00  254.10 .553     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0084:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .314 1984.0812_ 7:00  254.10  n/a     .000
                out <=    5.0 01:W1-LID        2.14     .001 1984.0214_ 9:10  254.10  n/a     .000
           overflow <=    5.0 03:W1-LID-Out    6.78     .310 1984.0812_ 7:00  254.10  n/a     .000
     {MxStoUsed=.1788E-01  m3, TotOvfVol=.1723E+01  m3, N-Ovf=   89, TotDurOvf=  140.hrs}
R0084:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .373 1984.0812_ 7:00  250.97 .546     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0084:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .373 1984.0812_ 7:00  250.97  n/a     .000
                out <=    5.0 01:W2-LID        2.44     .001 1984.0214_ 9:00  250.97  n/a     .000
           overflow <=    5.0 03:W2-LID-Out    8.31     .369 1984.0812_ 7:00  250.97  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2086E+01  m3, N-Ovf=   97, TotDurOvf=  143.hrs}
R0084:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .194 1984.0812_ 7:00  217.61 .474     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0084:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .194 1984.0812_ 7:00  217.61  n/a     .000
                out <=    5.0 01:W3-LID        1.33     .001 1984.0214_ 8:55  217.61  n/a     .000
           overflow <=    5.0 03:W3-LID-Out    4.97     .191 1984.0812_ 7:00  217.61  n/a     .000
     {MxStoUsed=.9592E-02  m3, TotOvfVol=.1082E+01  m3, N-Ovf=   97, TotDurOvf=  147.hrs}
R0084:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .265 1984.0812_ 7:00  230.17 .501     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0084:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .265 1984.0812_ 7:00  230.18  n/a     .000
                out <=    5.0 01:W4-LID        1.73     .001 1984.0214_ 8:55  230.17  n/a     .000
           overflow <=    5.0 03:W4-LID-Out    6.45     .261 1984.0812_ 7:00  230.18  n/a     .000
     {MxStoUsed=.1309E-01  m3, TotOvfVol=.1484E+01  m3, N-Ovf=   88, TotDurOvf=  146.hrs}
R0084:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .314 1984.0812_ 7:00  254.10  n/a     .000
                    +     5.0 02:W2           10.75     .373 1984.0812_ 7:00  250.97  n/a     .000
                    +     5.0 02:W3            6.30     .194 1984.0812_ 7:00  217.61  n/a     .000
                    +     5.0 02:W4            8.18     .265 1984.0812_ 7:00  230.18  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15    1.147 1984.0812_ 7:00  240.65  n/a     .000
R0084:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.78     .310 1984.0812_ 7:00  254.10  n/a     .000
                    +     5.0 02:W2-LID-Out    8.31     .369 1984.0812_ 7:00  250.97  n/a     .000
                    +     5.0 02:W3-LID-Out    4.97     .191 1984.0812_ 7:00  217.61  n/a     .000
                    +     5.0 02:W4-LID-Out    6.45     .261 1984.0812_ 7:00  230.18  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   26.51    1.131 1984.0812_ 7:00  240.45  n/a     .000
#*********************************************************************************************************
#                   Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*********************************************************************************************************
#                   Set infiltration to 0 (CN = 99.99) for water balance analysis
#*********************************************************************************************************
R0084:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .413 1984.0812_ 7:00  313.27 .682     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0084:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .495 1984.0812_ 7:00  311.76 .679     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0084:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

```
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .292 1984.0812_ 7:00  301.85 .657     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0084:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .376 1984.0812_ 7:00  307.93 .670     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0084:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .413 1984.0812_ 7:00  313.27  n/a     .000
                    +     5.0 02:INF-W2        10.75     .495 1984.0812_ 7:00  311.76  n/a     .000
                    +     5.0 02:INF-W3         6.30     .292 1984.0812_ 7:00  301.85  n/a     .000
                    +     5.0 02:INF-W4         8.18     .376 1984.0812_ 7:00  307.93  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.577 1984.0812_ 7:00  309.41  n/a     .000
#############################################################################
# CONTINUOUS RAINFALL DATA
#############################################################################
  ** END OF RUN :   84

*********************************************************************************************





 RUN#:COMMAND#
R0085:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19850101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0085 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0085:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1985.0101: End_date= 1985.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  354: DryHrs= 8406: PTOT= 559.90}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       19.00    13.60    11.73     6.60     3.30     1.65     1.11      .89      .60    mm/hr
       19.00    27.20    35.20    39.60    39.60    39.60    40.10    42.80    43.40    mm
      19850716 19850617 19850617 19850618 19850618 19850618 19850618 19850827 19850827  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         108       88       84       74       69       56       49       43       32
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         107       70       43       13        4        1        0        0        0
R0085:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 57.29: APIavg= 15.86: APImin=   .20}
#*****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*****************************************************************************************************
R0085:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .320 1985.0716_14:00  313.70 .560     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0085:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .320 1985.0716_14:00  313.70  n/a     .000
                 out <=   5.0 01:W1-LID         2.11     .001 1985.0223_12:30  313.71  n/a     .000
```

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          overflow <=    5.0 03:W1-LID-Out     6.81     .317 1985.0716_14:00  313.70  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.2136E+01  m3, N-Ovf=   76, TotDurOvf=  145.hrs}
R0085:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .379 1985.0716_14:00  309.67 .553     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0085:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .379 1985.0716_14:00  309.67  n/a     .000
               out <=    5.0 01:W2-LID         2.41     .001 1985.0222_ 9:10  309.67  n/a     .000
          overflow <=    5.0 03:W2-LID-Out     8.34     .375 1985.0716_14:00  309.67  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.2581E+01  m3, N-Ovf=   86, TotDurOvf=  150.hrs}
R0085:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .188 1985.0716_14:00  265.42 .474     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0085:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .188 1985.0716_14:00  265.42  n/a     .000
               out <=    5.0 01:W3-LID         1.33     .001 1985.0222_ 9:05  265.43  n/a     .000
          overflow <=    5.0 03:W3-LID-Out     4.97     .186 1985.0716_14:00  265.42  n/a     .000
     {MxStoUsed=.9599E-02  m3, TotOvfVol=.1319E+01  m3, N-Ovf=   87, TotDurOvf=  153.hrs}
R0085:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .260 1985.0716_14:00  281.65 .503     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0085:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .260 1985.0716_14:00  281.65  n/a     .000
               out <=    5.0 01:W4-LID         1.73     .001 1985.0222_ 9:05  281.65  n/a     .000
          overflow <=    5.0 03:W4-LID-Out     6.45     .257 1985.0716_14:00  281.65  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1816E+01  m3, N-Ovf=   81, TotDurOvf=  153.hrs}
R0085:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .320 1985.0716_14:00  313.70  n/a     .000
                    +     5.0 02:W2           10.75     .379 1985.0716_14:00  309.67  n/a     .000
                    +     5.0 02:W3            6.30     .188 1985.0716_14:00  265.42  n/a     .000
                    +     5.0 02:W4            8.18     .260 1985.0716_14:00  281.65  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15    1.147 1985.0716_14:00  295.85  n/a     .000
R0085:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.81     .317 1985.0716_14:00  313.70  n/a     .000
                    +     5.0 02:W2-LID-Out    8.34     .375 1985.0716_14:00  309.67  n/a     .000
                    +     5.0 02:W3-LID-Out    4.97     .186 1985.0716_14:00  265.42  n/a     .000
                    +     5.0 02:W4-LID-Out    6.45     .257 1985.0716_14:00  281.65  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   26.56    1.134 1985.0716_14:00  295.62  n/a     .000
#**************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#**************************************************************************************************
#                 Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************
R0085:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .413 1985.0716_14:00  392.45 .701     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0085:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .494 1985.0716_14:00  390.59 .698     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0085:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .291 1985.0716_14:00  377.36 .674     .000
      [XIMP=.53:TIMP=.63]
```

```
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0085:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .381 1985.0716_14:00  384.89 .687     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0085:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .413 1985.0716_14:00  392.45  n/a     .000
                    +     5.0 02:INF-W2        10.75     .494 1985.0716_14:00  390.59  n/a     .000
                    +     5.0 02:INF-W3         6.30     .291 1985.0716_14:00  377.36  n/a     .000
                    +     5.0 02:INF-W4         8.18     .381 1985.0716_14:00  384.89  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.579 1985.0716_14:00  387.27  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :   85

***************************************************************************************************





 RUN#:COMMAND#
R0086:C00001---------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19860101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0086 ]
#**************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0086:C00002---------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                         ]
      [Start_date= 1986.0101: End_date= 1986.1231]
      {DT= 60.min: Length= 8040.hrs: WetHrs=  520: DryHrs= 7520: PTOT= 849.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       18.30    17.80    13.57     7.07     4.84     2.89     2.42     1.85     1.31    mm/hr
       18.30    35.60    40.70    42.40    58.10    69.30    87.00    88.60    94.40    mm
      19860729 19860729 19860729 19860729 19860912 19860912 19860912 19860912 19860913  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         178      144      131      104       80       63       53       48       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         177      104       76       24        2        0        0        0        0
R0086:C00003---------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax=102.23: APIavg= 25.30: APImin=   .17}
#**************************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************************
R0086:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .363 1986.0729_15:00  495.15 .583     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0086:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .363 1986.0729_15:00  495.15  n/a     .000
                out <=    5.0 01:W1-LID         1.92     .001 1986.0119_19:30  495.17  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     7.00     .358 1986.0729_15:00  495.15  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.3464E+01  m3, N-Ovf=  162, TotDurOvf=  203.hrs}
```

```
03472> R0086:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03473>     CONTINUOUS STANDHYD   5.0 01:W2            10.75     .433 1986.0729_15:00  489.83 .577     .000
03474>       [XIMP=.65:TIMP=.70]
03475>       [LOSS= 2 :CN= 71.0]
03476>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03477>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
03478>       [IaRECimp=   1.50: IaRECper=   6.00]
03479>       [SMIN= 41.38: SMAX=275.84: SK= .030]
03480> # LID for Outlet W2 (29 catchbasins, 30 m long trench each)
03481> # Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
03482> # Total Volume provided by LID  - 200 m³
03483> # Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
03484> R0086:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03485>     ROUTE RESERVOIR ->    5.0 02:W2            10.75     .433 1986.0729_15:00  489.83  n/a     .000
03486>                 out <=    5.0 01:W2-LID         2.19     .001 1986.0119_19:20  489.82  n/a     .000
03487>            overflow <=    5.0 03:W2-LID-Out     8.56     .427 1986.0729_15:00  489.83  n/a     .000
03488>      {MxStoUsed=.2000E-01  m3, TotOvfVol=.4195E+01  m3, N-Ovf=  171, TotDurOvf=  209.hrs}
03489> R0086:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03490>     CONTINUOUS STANDHYD   5.0 01:W3             6.30     .237 1986.0729_15:00  435.04 .512     .000
03491>       [XIMP=.53:TIMP=.63]
03492>       [LOSS= 2 :CN= 71.0]
03493>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03494>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
03495>       [IaRECimp=   1.50: IaRECper=   6.00]
03496>       [SMIN= 41.38: SMAX=275.84: SK= .030]
03497> # LID for Outlet W3 (14 catchbasins, 30 m long trench each)
03498> # Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
03499> # Total Volume provided by LID  - 96 m³
03500> # Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
03501> R0086:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03502>     ROUTE RESERVOIR ->    5.0 02:W3             6.30     .237 1986.0729_15:00  435.04  n/a     .000
03503>                 out <=    5.0 01:W3-LID         1.15     .001 1986.0119_19:20  435.05  n/a     .000
03504>            overflow <=    5.0 03:W3-LID-Out     5.15     .232 1986.0729_15:00  435.04  n/a     .000
03505>      {MxStoUsed=.9598E-02  m3, TotOvfVol=.2240E+01  m3, N-Ovf=  170, TotDurOvf=  215.hrs}
03506> R0086:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03507>     CONTINUOUS STANDHYD   5.0 01:W4             8.18     .318 1986.0729_15:00  456.50 .537     .000
03508>       [XIMP=.57:TIMP=.67]
03509>       [LOSS= 2 :CN= 71.0]
03510>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03511>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
03512>       [IaRECimp=   1.50: IaRECper=   6.00]
03513>       [SMIN= 41.38: SMAX=275.84: SK= .030]
03514> # LID for Outlet W4 (26 catchbasins, 30 m long trench each)
03515> # Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
03516> # Total Volume provided by LID  - 131 m³
03517> # Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
03518> R0086:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03519>     ROUTE RESERVOIR ->    5.0 02:W4             8.18     .318 1986.0729_15:00  456.50  n/a     .000
03520>                 out <=    5.0 01:W4-LID         1.52     .001 1986.0119_19:15  456.51  n/a     .000
03521>            overflow <=    5.0 03:W4-LID-Out     6.66     .312 1986.0729_15:00  456.50  n/a     .000
03522>      {MxStoUsed=.1310E-01  m3, TotOvfVol=.3040E+01  m3, N-Ovf=  163, TotDurOvf=  215.hrs}
03523> R0086:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03524>     ADD HYD               5.0 02:W1             8.92     .363 1986.0729_15:00  495.15  n/a     .000
03525>                     +     5.0 02:W2            10.75     .433 1986.0729_15:00  489.83  n/a     .000
03526>                     +     5.0 02:W3             6.30     .237 1986.0729_15:00  435.04  n/a     .000
03527>                     +     5.0 02:W4             8.18     .318 1986.0729_15:00  456.50  n/a     .000
03528>                  SUM=     5.0 01:BCD-PH3       34.15    1.350 1986.0729_15:00  473.13  n/a     .000
03529> R0086:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03530>     ADD HYD               5.0 02:W1-LID-Out     7.00     .358 1986.0729_15:00  495.15  n/a     .000
03531>                     +     5.0 02:W2-LID-Out     8.56     .427 1986.0729_15:00  489.83  n/a     .000
03532>                     +     5.0 02:W3-LID-Out     5.15     .232 1986.0729_15:00  435.04  n/a     .000
03533>                     +     5.0 02:W4-LID-Out     6.66     .312 1986.0729_15:00  456.50  n/a     .000
03534>                  SUM=     5.0 01:BCD-PH3-LI    27.37    1.330 1986.0729_15:00  472.78  n/a     .000
03535> #*****************************************************************************************************
03536> #                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
03537> #*****************************************************************************************************
03538> #                  Set infiltration to 0 (CN = 99.99) for water balance analysis
03539> #*****************************************************************************************************
03540> R0086:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03541>     CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .450 1986.0729_15:00  595.87 .702     .000
03542>       [XIMP=.66:TIMP=.71]
03543>       [LOSS= 2 :CN=100.0]
03544>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03545>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
03546>       [IaRECimp=   1.50: IaRECper=   6.00]
03547>       [SMIN=  1.39: SMAX=  9.24: SK= .030]
03548> R0086:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03549>     CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .541 1986.0729_15:00  593.35 .699     .000
03550>       [XIMP=.65:TIMP=.70]
03551>       [LOSS= 2 :CN=100.0]
03552>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03553>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
03554>       [IaRECimp=   1.50: IaRECper=   6.00]
03555>       [SMIN=  1.39: SMAX=  9.24: SK= .030]
03556> R0086:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03557>     CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .319 1986.0729_15:00  577.26 .680     .000
03558>       [XIMP=.53:TIMP=.63]
03559>       [LOSS= 2 :CN=100.0]
03560>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
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      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0086:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .413 1986.0729_15:00  587.46 .692     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0086:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .450 1986.0729_15:00  595.87  n/a     .000
                    +     5.0 02:INF-W2        10.75     .541 1986.0729_15:00  593.35  n/a     .000
                    +     5.0 02:INF-W3         6.30     .319 1986.0729_15:00  577.26  n/a     .000
                    +     5.0 02:INF-W4         8.18     .413 1986.0729_15:00  587.46  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.722 1986.0729_15:00  589.63  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   86

****************************************************************************************************





 RUN#:COMMAND#
R0087:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19870101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0087 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0087:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                             ]
      [Start_date= 1987.0101: End_date= 1987.1231]
      {DT= 60.min: Length= 7344.hrs: WetHrs=  492: DryHrs= 6852: PTOT= 640.10}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       20.00    13.90    14.03     7.05     4.87     2.46     1.84     1.40      .93    mm/hr
       20.00    27.80    42.10    42.30    58.40    59.00    66.40    67.00    67.00    mm
      19870724 19870724 19870724 19870724 19870724 19870725 19870725 19870726 19870726  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         180      147      128       93       74       55       49       41       28
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         179       94       60       20        3        0        0        0        0
R0087:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 75.76: APIavg= 21.41: APImin=  1.18}
#*****************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*****************************************************************************************************
R0087:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .339 1987.0724_13:00  332.97 .520     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0087:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .339 1987.0724_13:00  332.97  n/a     .000
                out <=    5.0 01:W1-LID         2.53     .001 1987.0326_15:50  332.97  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.39     .335 1987.0724_13:00  332.97  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2126E+01  m3, N-Ovf=  124, TotDurOvf=  159.hrs}
R0087:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .402 1987.0724_13:00  328.89 .514     .000
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      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0087:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .402 1987.0724_13:00  328.89  n/a     .000
               out <=    5.0 01:W2-LID         2.88     .001 1987.0326_15:10  328.89  n/a     .000
          overflow <=    5.0 03:W2-LID-Out     7.87     .397 1987.0724_13:00  328.89  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2588E+01  m3, N-Ovf=  127, TotDurOvf=  165.hrs}
R0087:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .201 1987.0724_13:00  285.09 .445     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0087:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .201 1987.0724_13:00  285.09  n/a     .000
               out <=    5.0 01:W3-LID         1.56     .001 1987.0326_15:05  285.10  n/a     .000
          overflow <=    5.0 03:W3-LID-Out     4.74     .198 1987.0724_13:00  285.09  n/a     .000
     {MxStoUsed=.9598E-02  m3, TotOvfVol=.1352E+01  m3, N-Ovf=  141, TotDurOvf=  169.hrs}
R0087:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .277 1987.0724_13:00  301.51 .471     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0087:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .277 1987.0724_13:00  301.51  n/a     .000
               out <=    5.0 01:W4-LID         2.04     .001 1987.0326_15:00  301.51  n/a     .000
          overflow <=    5.0 03:W4-LID-Out     6.14     .273 1987.0724_13:00  301.51  n/a     .000
     {MxStoUsed=.1309E-01  m3, TotOvfVol=.1852E+01  m3, N-Ovf=  134, TotDurOvf=  170.hrs}
R0087:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .339 1987.0724_13:00  332.97  n/a     .000
                    +     5.0 02:W2           10.75     .402 1987.0724_13:00  328.89  n/a     .000
                    +     5.0 02:W3            6.30     .201 1987.0724_13:00  285.09  n/a     .000
                    +     5.0 02:W4            8.18     .277 1987.0724_13:00  301.51  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15    1.219 1987.0724_13:00  315.32  n/a     .000
R0087:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.39     .335 1987.0724_13:00  332.97  n/a     .000
                    +     5.0 02:W2-LID-Out    7.87     .397 1987.0724_13:00  328.89  n/a     .000
                    +     5.0 02:W3-LID-Out    4.74     .198 1987.0724_13:00  285.09  n/a     .000
                    +     5.0 02:W4-LID-Out    6.14     .273 1987.0724_13:00  301.51  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   25.14    1.203 1987.0724_13:00  314.98  n/a     .000
#*****************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0087:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .434 1987.0724_13:00  399.53 .624     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0087:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .518 1987.0724_13:00  397.23 .621     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0087:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .305 1987.0724_13:00  381.20 .596     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
```

```
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0087:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .400 1987.0724_13:00  390.61 .610     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0087:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .434 1987.0724_13:00  399.53  n/a     .000
                    +     5.0 02:INF-W2        10.75     .518 1987.0724_13:00  397.23  n/a     .000
                    +     5.0 02:INF-W3         6.30     .305 1987.0724_13:00  381.20  n/a     .000
                    +     5.0 02:INF-W4         8.18     .400 1987.0724_13:00  390.61  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.657 1987.0724_13:00  393.29  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   87

****************************************************************************************************






 RUN#:COMMAND#
R0088:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19880101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0088 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0088:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1988.0101: End_date= 1988.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  487: DryHrs= 8273: PTOT= 643.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       25.50    18.20    12.77     7.37     3.78     1.91     1.27      .95      .94    mm/hr
       25.50    36.40    38.30    44.20    45.40    45.80    45.80    45.80    67.40    mm
      19880917 19880726 19880625 19880625 19880625 19880625 19880625 19880626 19880625  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         165      130      109       80       66       56       49       42       26
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         164      102       71       20        5        0        0        0        0
R0088:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 66.04: APIavg= 18.06: APImin=   .03}
#***************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0088:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .444 1988.0726_13:00  334.51 .520     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0088:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .444 1988.0726_13:00  334.51  n/a     .000
                out <=    5.0 01:W1-LID         2.53     .001 1988.0117_22:50  334.52  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.39     .438 1988.0726_13:00  334.51  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.2136E+01  m3, N-Ovf=  121, TotDurOvf=  161.hrs}
R0088:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .527 1988.0726_13:00  330.37 .513     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
```

```
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0088:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .527 1988.0726_13:00  330.37  n/a     .000
               out <=     5.0 01:W2-LID         2.88     .001 1988.0117_22:35  330.37  n/a     .000
          overflow <=     5.0 03:W2-LID-Out     7.87     .519 1988.0726_13:00  330.37  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2599E+01  m3, N-Ovf=  130, TotDurOvf=  168.hrs}
R0088:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .274 1988.0726_13:00  285.65 .444     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0088:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .274 1988.0726_13:00  285.65  n/a     .000
               out <=     5.0 01:W3-LID         1.56     .001 1988.0117_22:30  285.66  n/a     .000
          overflow <=     5.0 03:W3-LID-Out     4.74     .268 1988.0726_13:00  285.65  n/a     .000
     {MxStoUsed=.9595E-02  m3, TotOvfVol=.1353E+01  m3, N-Ovf=  127, TotDurOvf=  170.hrs}
R0088:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .375 1988.0726_13:00  302.40 .470     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0088:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .375 1988.0726_13:00  302.40  n/a     .000
               out <=     5.0 01:W4-LID         2.04     .001 1988.0117_22:30  302.40  n/a     .000
          overflow <=     5.0 03:W4-LID-Out     6.14     .367 1988.0726_13:00  302.40  n/a     .000
     {MxStoUsed=.1308E-01  m3, TotOvfVol=.1855E+01  m3, N-Ovf=  122, TotDurOvf=  170.hrs}
R0088:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .444 1988.0726_13:00  334.51  n/a     .000
                    +     5.0 02:W2            10.75     .527 1988.0726_13:00  330.37  n/a     .000
                    +     5.0 02:W3             6.30     .274 1988.0726_13:00  285.65  n/a     .000
                    +     5.0 02:W4             8.18     .375 1988.0726_13:00  302.40  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15    1.619 1988.0726_13:00  316.50  n/a     .000
R0088:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.39     .438 1988.0726_13:00  334.51  n/a     .000
                    +     5.0 02:W2-LID-Out     7.87     .519 1988.0726_13:00  330.37  n/a     .000
                    +     5.0 02:W3-LID-Out     4.74     .268 1988.0726_13:00  285.65  n/a     .000
                    +     5.0 02:W4-LID-Out     6.14     .367 1988.0726_13:00  302.40  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    25.13    1.591 1988.0726_13:00  316.16  n/a     .000
#***************************************************************************************************
#                    Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#***************************************************************************************************
#                    Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************
R0088:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .583 1988.0726_13:00  406.13 .631     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0088:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .698 1988.0726_13:00  403.95 .627     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0088:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .407 1988.0726_13:00  388.00 .603     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0088:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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     CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .531 1988.0726_13:00  396.98 .617     .000
       [XIMP=.57:TIMP=.67]
       [LOSS= 2 :CN=100.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0088:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:INF-W1         8.92     .583 1988.0726_13:00  406.13  n/a     .000
                     +     5.0 02:INF-W2        10.75     .698 1988.0726_13:00  403.95  n/a     .000
                     +     5.0 02:INF-W3         6.30     .407 1988.0726_13:00  388.00  n/a     .000
                     +     5.0 02:INF-W4         8.18     .531 1988.0726_13:00  396.98  n/a     .000
                  SUM=     5.0 01:INF-BCD-PH    34.15    2.219 1988.0726_13:00  399.91  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
   ** END OF RUN :    88

***************************************************************************************************






 RUN#:COMMAND#
R0089:C00001------------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on 19890101]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  = 0089 ]
#************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0089:C00002------------------------------------------------------------------------------------------
   *  READ AES DATA
       [Filename  = YOW_1967_2007.123                                          ]
       [Start_date= 1989.0101: End_date= 1989.1231]
       {DT= 60.min: Length= 8040.hrs: WetHrs=  422: DryHrs= 7618: PTOT= 523.20}
       Maximum average rainfall intensities over
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        22.70    12.60     8.93     5.75     3.03     1.69     1.14      .86      .59    mm/hr
        22.70    25.20    26.80    34.50    36.30    40.60    40.90    41.30    42.50    mm
       19890727 19890727 19890727 19890727 19890727 19891020 19891021 19891021 19891022  date
       Number of rainfall events per following interevent time
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          151      125      108       89       67       53       42       37       29
       Number of events with at least the following durations
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          150       81       52       19        5        0        0        0        0
R0089:C00003------------------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
       {APImax= 55.10: APIavg= 16.03: APImin=   .02}
#************************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#************************************************************************************************************
R0089:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W1             8.92     .401 1989.0727_15:00  267.84 .512     .000
       [XIMP=.66:TIMP=.71]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0089:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W1             8.92     .401 1989.0727_15:00  267.84  n/a     .000
                  out <=   5.0 01:W1-LID         2.58     .001 1989.0325_13:35  267.84  n/a     .000
             overflow <=   5.0 03:W1-LID-Out     6.34     .395 1989.0727_15:00  267.84  n/a     .000
      {MxStoUsed=.1790E-01  m3, TotOvfVol=.1699E+01  m3, N-Ovf=   95, TotDurOvf=  152.hrs}
R0089:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W2            10.75     .472 1989.0727_15:00  264.35 .505     .000
       [XIMP=.65:TIMP=.70]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
```

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       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0089:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W2           10.75     .472 1989.0727_15:00  264.35  n/a     .000
                 out <=    5.0 01:W2-LID        2.95     .001 1989.0325_13:25  264.35  n/a     .000
            overflow <=    5.0 03:W2-LID-Out    7.80     .466 1989.0727_15:00  264.35  n/a     .000
      {MxStoUsed=.1999E-01  m3, TotOvfVol=.2063E+01  m3, N-Ovf=   94, TotDurOvf=  157.hrs}
R0089:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W3            6.30     .245 1989.0727_15:00  226.07 .432     .000
       [XIMP=.53:TIMP=.63]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0089:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W3            6.30     .245 1989.0727_15:00  226.07  n/a     .000
                 out <=    5.0 01:W3-LID        1.62     .001 1989.0325_13:25  226.07  n/a     .000
            overflow <=    5.0 03:W3-LID-Out    4.68     .240 1989.0727_15:00  226.07  n/a     .000
      {MxStoUsed=.9599E-02  m3, TotOvfVol=.1059E+01  m3, N-Ovf=   97, TotDurOvf=  158.hrs}
R0089:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W4            8.18     .335 1989.0727_15:00  240.09 .459     .000
       [XIMP=.57:TIMP=.67]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0089:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W4            8.18     .335 1989.0727_15:00  240.09  n/a     .000
                 out <=    5.0 01:W4-LID        2.11     .001 1989.0325_13:25  240.09  n/a     .000
            overflow <=    5.0 03:W4-LID-Out    6.07     .328 1989.0727_15:00  240.09  n/a     .000
      {MxStoUsed=.1310E-01  m3, TotOvfVol=.1458E+01  m3, N-Ovf=  108, TotDurOvf=  159.hrs}
R0089:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:W1            8.92     .401 1989.0727_15:00  267.84  n/a     .000
                     +     5.0 02:W2           10.75     .472 1989.0727_15:00  264.35  n/a     .000
                     +     5.0 02:W3            6.30     .245 1989.0727_15:00  226.07  n/a     .000
                     +     5.0 02:W4            8.18     .335 1989.0727_15:00  240.09  n/a     .000
                  SUM=     5.0 01:BCD-PH3      34.15    1.452 1989.0727_15:00  252.39  n/a     .000
R0089:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               5.0 02:W1-LID-Out    6.34     .395 1989.0727_15:00  267.84  n/a     .000
                     +     5.0 02:W2-LID-Out    7.80     .466 1989.0727_15:00  264.35  n/a     .000
                     +     5.0 02:W3-LID-Out    4.68     .240 1989.0727_15:00  226.07  n/a     .000
                     +     5.0 02:W4-LID-Out    6.07     .328 1989.0727_15:00  240.09  n/a     .000
                  SUM=     5.0 01:BCD-PH3-LI   24.90    1.429 1989.0727_15:00  252.12  n/a     .000
#*****************************************************************************************************
#                   Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                   Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0089:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .535 1989.0727_15:00  328.10 .627     .000
       [XIMP=.66:TIMP=.71]
       [LOSS= 2 :CN=100.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0089:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .642 1989.0727_15:00  326.22 .624     .000
       [XIMP=.65:TIMP=.70]
       [LOSS= 2 :CN=100.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0089:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .376 1989.0727_15:00  312.77 .598     .000
       [XIMP=.53:TIMP=.63]
       [LOSS= 2 :CN=100.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0089:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:INF-W4        8.18     .489 1989.0727_15:00  320.35 .612     .000
       [XIMP=.57:TIMP=.67]
```

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      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0089:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .535 1989.0727_15:00  328.10  n/a     .000
                   +      5.0 02:INF-W2        10.75     .642 1989.0727_15:00  326.22  n/a     .000
                   +      5.0 02:INF-W3         6.30     .376 1989.0727_15:00  312.76  n/a     .000
                   +      5.0 02:INF-W4         8.18     .489 1989.0727_15:00  320.35  n/a     .000
                SUM=      5.0 01:INF-BCD-PH    34.15    2.043 1989.0727_15:00  322.82  n/a     .000
###########################################################################
# CONTINUOUS RAINFALL DATA
###########################################################################
  ** END OF RUN :   89

*******************************************************************************************






 RUN#:COMMAND#
R0090:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19900101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0090 ]
#*****************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*****************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0090:C00002-------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                        ]
      [Start_date= 1990.0101: End_date= 1990.1231]
      {DT= 60.min: Length= 7344.hrs: WetHrs=  618: DryHrs= 6726: PTOT= 727.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       20.60    12.25     9.60     5.58     4.43     2.25     1.50     1.23     1.06    mm/hr
       20.60    24.50    28.80    33.50    53.20    54.00    54.00    59.00    76.60    mm
      19900720 19900720 19900828 19900828 19900720 19900720 19900720 19900722 19900723  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         204      156      141      107       84       66       56       47       33
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         203      116       75       31        6        1        0        0        0
R0090:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 75.10: APIavg= 23.47: APImin=  3.10}
#*****************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*****************************************************************************************************
R0090:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .359 1990.0720_ 5:00  387.16 .532     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0090:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .359 1990.0720_ 5:00  387.16  n/a     .000
                out <=    5.0 01:W1-LID         2.33     .001 1990.0312_17:15  387.18  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.59     .355 1990.0720_ 5:00  387.16  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.2550E+01  m3, N-Ovf=  130, TotDurOvf=  225.hrs}
R0090:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .427 1990.0720_ 5:00  382.52 .526     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
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# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0090:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .427 1990.0720_ 5:00  382.52  n/a     .000
                out <=    5.0 01:W2-LID        2.65     .001 1990.0312_17:10  382.51  n/a     .000
           overflow <=    5.0 03:W2-LID-Out    8.10     .422 1990.0720_ 5:00  382.52  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.3097E+01  m3, N-Ovf=  122, TotDurOvf=  231.hrs}
R0090:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3            6.30     .217 1990.0720_ 5:00  332.93 .457     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0090:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .217 1990.0720_ 5:00  332.93  n/a     .000
                out <=    5.0 01:W3-LID        1.43     .001 1990.0312_17:10  332.94  n/a     .000
           overflow <=    5.0 03:W3-LID-Out    4.87     .213 1990.0720_ 5:00  332.93  n/a     .000
     {MxStoUsed=.9597E-02  m3, TotOvfVol=.1621E+01  m3, N-Ovf=  121, TotDurOvf=  234.hrs}
R0090:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .298 1990.0720_ 5:00  351.63 .483     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0090:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .298 1990.0720_ 5:00  351.63  n/a     .000
                out <=    5.0 01:W4-LID        1.88     .001 1990.0312_17:10  351.64  n/a     .000
           overflow <=    5.0 03:W4-LID-Out    6.30     .293 1990.0720_ 5:00  351.63  n/a     .000
     {MxStoUsed=.1309E-01  m3, TotOvfVol=.2217E+01  m3, N-Ovf=  124, TotDurOvf=  234.hrs}
R0090:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .359 1990.0720_ 5:00  387.16  n/a     .000
                    +     5.0 02:W2           10.75     .427 1990.0720_ 5:00  382.52  n/a     .000
                    +     5.0 02:W3            6.30     .217 1990.0720_ 5:00  332.93  n/a     .000
                    +     5.0 02:W4            8.18     .298 1990.0720_ 5:00  351.63  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15    1.300 1990.0720_ 5:00  367.19  n/a     .000
R0090:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.59     .355 1990.0720_ 5:00  387.16  n/a     .000
                    +     5.0 02:W2-LID-Out    8.10     .422 1990.0720_ 5:00  382.52  n/a     .000
                    +     5.0 02:W3-LID-Out    4.87     .213 1990.0720_ 5:00  332.93  n/a     .000
                    +     5.0 02:W4-LID-Out    6.30     .293 1990.0720_ 5:00  351.63  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   25.85    1.283 1990.0720_ 5:00  366.83  n/a     .000
#****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#****************************************************************************************************
R0090:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .482 1990.0720_ 5:00  472.43 .649     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0090:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .571 1990.0720_ 5:00  470.12 .646     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0090:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .338 1990.0720_ 5:00  454.32 .624     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0090:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4        8.18     .440 1990.0720_ 5:00  463.65 .637     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
```

```
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0090:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .482 1990.0720_ 5:00  472.43  n/a     .000
                    +     5.0 02:INF-W2        10.75     .571 1990.0720_ 5:00  470.12  n/a     .000
                    +     5.0 02:INF-W3         6.30     .338 1990.0720_ 5:00  454.32  n/a     .000
                    +     5.0 02:INF-W4         8.18     .440 1990.0720_ 5:00  463.65  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.831 1990.0720_ 5:00  466.26  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   90

************************************************************************************************






 RUN#:COMMAND#
R0091:C00001------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19910101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0091 ]
#*************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#*************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0091:C00002------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                              ]
      [Start_date= 1991.0101: End_date= 1991.1231]
      {DT= 60.min: Length= 8040.hrs: WetHrs=  486: DryHrs= 7554: PTOT= 556.00}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       11.30     9.90     6.87     4.10     2.53     1.72     1.28     1.08      .79    mm/hr
       11.30    19.80    20.60    24.60    30.40    41.20    46.00    51.60    57.00    mm
      19910409 19910409 19910409 19910409 19911016 19910422 19910410 19910410 19910423  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         165      137      127      102       80       63       52       45       38
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         164       89       56       21        6        1        0        0        0
R0091:C00003------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 72.80: APIavg= 16.88: APImin=   .26}
#*************************************************************************************************************
#                    Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*************************************************************************************************************
R0091:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .200 1991.0410_ 3:00  288.10 .518     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0091:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .200 1991.0410_ 3:00  288.10  n/a     .000
                out <=    5.0 01:W1-LID         2.89     .001 1991.0302_ 6:50  288.11  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.03     .195 1991.0410_ 3:05  288.10  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.1737E+01  m3, N-Ovf=  106, TotDurOvf=  185.hrs}
R0091:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .234 1991.0410_ 3:00  284.38 .511     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
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# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0091:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .234 1991.0410_ 3:00  284.38  n/a     .000
                out <=    5.0 01:W2-LID         3.28     .001 1991.0302_ 6:45  284.37  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     7.47     .229 1991.0410_ 3:05  284.38  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.2124E+01  m3, N-Ovf=  106, TotDurOvf=  191.hrs}
R0091:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .130 1991.0410_ 3:00  243.73 .438     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0091:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .130 1991.0410_ 3:00  243.73  n/a     .000
                out <=    5.0 01:W3-LID         1.79     .001 1991.0302_ 6:45  243.74  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     4.51     .126 1991.0410_ 3:00  243.73  n/a     .000
     {MxStoUsed=.9596E-02  m3, TotOvfVol=.1099E+01  m3, N-Ovf=  123, TotDurOvf=  194.hrs}
R0091:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .174 1991.0410_ 3:00  258.64 .465     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0091:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .174 1991.0410_ 3:00  258.64  n/a     .000
                out <=    5.0 01:W4-LID         2.34     .001 1991.0302_ 6:45  258.64  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     5.84     .171 1991.0410_ 3:05  258.64  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1511E+01  m3, N-Ovf=  111, TotDurOvf=  194.hrs}
R0091:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .200 1991.0410_ 3:00  288.10  n/a     .000
                    +     5.0 02:W2            10.75     .234 1991.0410_ 3:00  284.38  n/a     .000
                    +     5.0 02:W3             6.30     .130 1991.0410_ 3:00  243.73  n/a     .000
                    +     5.0 02:W4             8.18     .174 1991.0410_ 3:00  258.64  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15     .738 1991.0410_ 3:00  271.69  n/a     .000
R0091:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.03     .195 1991.0410_ 3:05  288.10  n/a     .000
                    +     5.0 02:W2-LID-Out     7.47     .229 1991.0410_ 3:05  284.38  n/a     .000
                    +     5.0 02:W3-LID-Out     4.51     .126 1991.0410_ 3:00  243.73  n/a     .000
                    +     5.0 02:W4-LID-Out     5.84     .171 1991.0410_ 3:05  258.64  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    23.85     .721 1991.0410_ 3:05  271.33  n/a     .000
#*****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0091:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .261 1991.0409_ 1:00  346.97 .624     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0091:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .313 1991.0409_ 1:00  344.79 .620     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0091:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .185 1991.0409_ 1:00  329.01 .592     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0091:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .241 1991.0409_ 1:00  337.77 .608     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
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      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0091:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD              5.0 02:INF-W1         8.92     .261 1991.0409_ 1:00  346.97  n/a     .000
                  +     5.0 02:INF-W2        10.75     .313 1991.0409_ 1:00  344.79  n/a     .000
                  +     5.0 02:INF-W3         6.30     .185 1991.0409_ 1:00  329.01  n/a     .000
                  +     5.0 02:INF-W4         8.18     .241 1991.0409_ 1:00  337.77  n/a     .000
               SUM=     5.0 01:INF-BCD-PH    34.15     .999 1991.0409_ 1:00  340.77  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :   91

*****************************************************************************************************





 RUN#:COMMAND#
R0092:C00001-----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19920101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0092 ]
#****************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#****************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#****************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0092:C00002-----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                           ]
      [Start_date= 1992.0101: End_date= 1992.1230]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  551: DryHrs= 8209: PTOT= 732.80}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       31.50    18.00    13.30     7.22     4.14     2.26     1.51     1.51     1.02    mm/hr
       31.50    36.00    39.90    43.30    49.70    54.20    54.20    72.60    73.60    mm
      19920804 19920804 19920804 19920804 19920717 19920718 19920718 19920719 19920720  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         190      151      132      100       84       69       55       47       38
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         189      109       70       22        5        1        0        0        0
R0092:C00003-----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 97.62: APIavg= 20.33: APImin=  1.07}
#****************************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#****************************************************************************************************************
R0092:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:W1             8.92     .613 1992.0804_14:00  400.30 .546     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0092:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->    5.0 02:W1             8.92     .613 1992.0804_14:00  400.30  n/a     .000
              out <=    5.0 01:W1-LID         2.29     .001 1992.0104_21:55  400.31  n/a     .000
          overflow <=    5.0 03:W1-LID-Out     6.63     .601 1992.0804_14:00  400.30  n/a     .000
     {MxStoUsed=.1788E-01  m3, TotOvfVol=.2653E+01  m3, N-Ovf=  118, TotDurOvf=  186.hrs}
R0092:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:W2            10.75     .731 1992.0804_14:00  395.59 .540     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
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04540> R0092:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04541>     ROUTE RESERVOIR ->    5.0 02:W2            10.75     .731 1992.0804_14:00  395.59  n/a     .000
04542>                 out <=    5.0 01:W2-LID         2.60     .001 1992.0104_21:45  395.58  n/a     .000
04543>            overflow <=    5.0 03:W2-LID-Out     8.15     .717 1992.0804_14:00  395.59  n/a     .000
04544>      {MxStoUsed=.2000E-01  m3, TotOvfVol=.3223E+01  m3, N-Ovf=  117, TotDurOvf=  194.hrs}
04545> R0092:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04546>     CONTINUOUS STANDHYD   5.0 01:W3             6.30     .398 1992.0804_14:00  345.26 .471     .000
04547>       [XIMP=.53:TIMP=.63]
04548>       [LOSS= 2 :CN= 71.0]
04549>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04550>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
04551>       [IaRECimp=   1.50: IaRECper=   6.00]
04552>       [SMIN= 41.38: SMAX=275.84: SK= .030]
04553> # LID for Outlet W3 (14 catchbasins, 30 m long trench each)
04554> # Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
04555> # Total Volume provided by LID  - 96 m³
04556> # Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
04557> R0092:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04558>     ROUTE RESERVOIR ->    5.0 02:W3             6.30     .398 1992.0804_14:00  345.26  n/a     .000
04559>                 out <=    5.0 01:W3-LID         1.40     .001 1992.0104_21:45  345.27  n/a     .000
04560>            overflow <=    5.0 03:W3-LID-Out     4.90     .386 1992.0804_14:00  345.26  n/a     .000
04561>      {MxStoUsed=.9598E-02  m3, TotOvfVol=.1692E+01  m3, N-Ovf=  136, TotDurOvf=  196.hrs}
04562> R0092:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04563>     CONTINUOUS STANDHYD   5.0 01:W4             8.18     .534 1992.0804_14:00  364.21 .497     .000
04564>       [XIMP=.57:TIMP=.67]
04565>       [LOSS= 2 :CN= 71.0]
04566>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04567>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
04568>       [IaRECimp=   1.50: IaRECper=   6.00]
04569>       [SMIN= 41.38: SMAX=275.84: SK= .030]
04570> # LID for Outlet W4 (26 catchbasins, 30 m long trench each)
04571> # Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
04572> # Total Volume provided by LID  - 131 m³
04573> # Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
04574> R0092:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04575>     ROUTE RESERVOIR ->    5.0 02:W4             8.18     .534 1992.0804_14:00  364.21  n/a     .000
04576>                 out <=    5.0 01:W4-LID         1.83     .001 1992.0104_21:45  364.21  n/a     .000
04577>            overflow <=    5.0 03:W4-LID-Out     6.35     .520 1992.0804_14:00  364.21  n/a     .000
04578>      {MxStoUsed=.1308E-01  m3, TotOvfVol=.2311E+01  m3, N-Ovf=  133, TotDurOvf=  197.hrs}
04579> R0092:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04580>     ADD HYD               5.0 02:W1             8.92     .613 1992.0804_14:00  400.30  n/a     .000
04581>                     +     5.0 02:W2            10.75     .731 1992.0804_14:00  395.59  n/a     .000
04582>                     +     5.0 02:W3             6.30     .398 1992.0804_14:00  345.26  n/a     .000
04583>                     +     5.0 02:W4             8.18     .534 1992.0804_14:00  364.21  n/a     .000
04584>                  SUM=     5.0 01:BCD-PH3       34.15    2.277 1992.0804_14:00  380.02  n/a     .000
04585> R0092:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04586>     ADD HYD               5.0 02:W1-LID-Out     6.63     .601 1992.0804_14:00  400.30  n/a     .000
04587>                     +     5.0 02:W2-LID-Out     8.15     .717 1992.0804_14:00  395.59  n/a     .000
04588>                     +     5.0 02:W3-LID-Out     4.90     .386 1992.0804_14:00  345.26  n/a     .000
04589>                     +     5.0 02:W4-LID-Out     6.35     .520 1992.0804_14:00  364.21  n/a     .000
04590>                  SUM=     5.0 01:BCD-PH3-LI    26.02    2.224 1992.0804_14:00  379.65  n/a     .000
04591> #*****************************************************************************************************
04592> #                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
04593> #*****************************************************************************************************
04594> #                  Set infiltration to 0 (CN = 99.99) for water balance analysis
04595> #*****************************************************************************************************
04596> R0092:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04597>     CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .761 1992.0804_14:00  487.30 .665     .000
04598>       [XIMP=.66:TIMP=.71]
04599>       [LOSS= 2 :CN=100.0]
04600>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04601>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
04602>       [IaRECimp=   1.50: IaRECper=   6.00]
04603>       [SMIN=  1.39: SMAX=  9.24: SK= .030]
04604> R0092:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04605>     CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .914 1992.0804_14:00  484.99 .662     .000
04606>       [XIMP=.65:TIMP=.70]
04607>       [LOSS= 2 :CN=100.0]
04608>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04609>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
04610>       [IaRECimp=   1.50: IaRECper=   6.00]
04611>       [SMIN=  1.39: SMAX=  9.24: SK= .030]
04612> R0092:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04613>     CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .536 1992.0804_14:00  468.97 .640     .000
04614>       [XIMP=.53:TIMP=.63]
04615>       [LOSS= 2 :CN=100.0]
04616>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04617>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
04618>       [IaRECimp=   1.50: IaRECper=   6.00]
04619>       [SMIN=  1.39: SMAX=  9.24: SK= .030]
04620> R0092:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04621>     CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .696 1992.0804_14:00  478.36 .653     .000
04622>       [XIMP=.57:TIMP=.67]
04623>       [LOSS= 2 :CN=100.0]
04624>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04625>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
04626>       [IaRECimp=   1.50: IaRECper=   6.00]
04627>       [SMIN=  1.39: SMAX=  9.24: SK= .030]
04628> R0092:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

```
    ADD HYD              5.0 02:INF-W1         8.92     .761 1992.0804_14:00  487.30  n/a     .000
                    +    5.0 02:INF-W2        10.75     .914 1992.0804_14:00  484.99  n/a     .000
                    +    5.0 02:INF-W3         6.30     .536 1992.0804_14:00  468.97  n/a     .000
                    +    5.0 02:INF-W4         8.18     .696 1992.0804_14:00  478.36  n/a     .000
                 SUM=    5.0 01:INF-BCD-PH    34.15    2.907 1992.0804_14:00  481.05  n/a     .000
#########################################################################
# CONTINUOUS RAINFALL DATA
#########################################################################
  ** END OF RUN :   92

*****************************************************************************************





 RUN#:COMMAND#
R0093:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19930101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0093 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0093:C00002-------------------------------------------------------------------------------------
   *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1993.0101: End_date= 1993.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  585: DryHrs= 8175: PTOT= 721.30}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       12.60     6.60     4.83     3.72     3.58     2.31     1.61     1.21      .81    mm/hr
       12.60    13.20    14.50    22.30    43.00    55.50    58.10    58.10    58.10    mm
      19930703 19930703 19931127 19931128 19931128 19931128 19931128 19931128 19931129  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         191      154      137      111       91       73       57       48       34
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         190      110       66       27        7        2        0        0        0
R0093:C00003-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 66.56: APIavg= 20.01: APImin=   .11}
#**************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************
R0093:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1            8.92     .205 1993.0703_ 9:00  376.19 .522     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0093:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1            8.92     .205 1993.0703_ 9:00  376.19  n/a     .000
                out <=    5.0 01:W1-LID        2.75     .001 1993.0104_ 1:05  376.20  n/a     .000
           overflow <=    5.0 03:W1-LID-Out    6.17     .202 1993.0703_ 9:00  376.19  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2321E+01  m3, N-Ovf=  145, TotDurOvf=  223.hrs}
R0093:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2           10.75     .240 1993.0703_ 9:00  371.40 .515     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0093:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2           10.75     .240 1993.0703_ 9:00  371.40  n/a     .000
```

```
                out <=    5.0 01:W2-LID         3.14     .001 1993.0104_ 0:55  371.39  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     7.61     .237 1993.0703_ 9:00  371.40  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.2827E+01  m3, N-Ovf=  156, TotDurOvf=  232.hrs}
R0093:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .118 1993.0703_ 9:00  319.25 .443     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0093:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .118 1993.0703_ 9:00  319.25  n/a     .000
                out <=    5.0 01:W3-LID         1.72     .001 1993.0104_ 0:50  319.25  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     4.58     .117 1993.0703_ 9:00  319.25  n/a     .000
     {MxStoUsed=.9599E-02  m3, TotOvfVol=.1463E+01  m3, N-Ovf=  160, TotDurOvf=  239.hrs}
R0093:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .164 1993.0703_ 9:00  338.57 .469     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0093:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .164 1993.0703_ 9:00  338.57  n/a     .000
                out <=    5.0 01:W4-LID         2.24     .001 1993.0104_ 0:50  338.57  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     5.94     .162 1993.0703_ 9:00  338.57  n/a     .000
     {MxStoUsed=.1309E-01  m3, TotOvfVol=.2011E+01  m3, N-Ovf=  158, TotDurOvf=  240.hrs}
R0093:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .205 1993.0703_ 9:00  376.19  n/a     .000
                   +      5.0 02:W2            10.75     .240 1993.0703_ 9:00  371.40  n/a     .000
                   +      5.0 02:W3             6.30     .118 1993.0703_ 9:00  319.25  n/a     .000
                   +      5.0 02:W4             8.18     .164 1993.0703_ 9:00  338.57  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15     .727 1993.0703_ 9:00  355.16  n/a     .000
R0093:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.17     .202 1993.0703_ 9:00  376.19  n/a     .000
                   +      5.0 02:W2-LID-Out     7.61     .237 1993.0703_ 9:00  371.40  n/a     .000
                   +      5.0 02:W3-LID-Out     4.58     .117 1993.0703_ 9:00  319.25  n/a     .000
                   +      5.0 02:W4-LID-Out     5.94     .162 1993.0703_ 9:00  338.57  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    24.31     .718 1993.0703_ 9:00  354.76  n/a     .000
#***************************************************************************************************
#                    Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#***************************************************************************************************
#                    Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************
R0093:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .241 1993.0703_ 9:00  454.07 .630     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0093:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .285 1993.0703_ 9:00  451.33 .626     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0093:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .164 1993.0703_ 9:00  431.74 .599     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0093:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .219 1993.0703_ 9:00  442.84 .614     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0093:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .241 1993.0703_ 9:00  454.07  n/a     .000
                   +      5.0 02:INF-W2        10.75     .285 1993.0703_ 9:00  451.33  n/a     .000
```

```
                    +     5.0 02:INF-W3          6.30     .164 1993.0703_ 9:00  431.74  n/a     .000
                    +     5.0 02:INF-W4          8.18     .219 1993.0703_ 9:00  442.84  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH     34.15     .909 1993.0703_ 9:00  446.40  n/a     .000
#################################################################################
# CONTINUOUS RAINFALL DATA
#################################################################################
  ** END OF RUN :   93

*********************************************************************************************





 RUN#:COMMAND#
R0094:C00001------------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19940101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0094 ]
#*************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0094:C00002------------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1994.0101: End_date= 1994.1231]
      {DT= 60.min: Length= 8760.hrs: WetHrs=  342: DryHrs= 8418: PTOT= 540.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       22.60    11.90     8.43     5.42     2.92     1.79     1.19      .89     1.15    mm/hr
       22.60    23.80    25.30    32.50    35.00    42.90    42.90    42.90    82.60    mm
      19940629 19940629 19940627 19940625 19940625 19940625 19940626 19940626 19940627  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         138      115      101       79       62       48       39       34       26
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         137       72       48       12        1        0        0        0        0
R0094:C00003------------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 97.84: APIavg= 15.35: APImin=   .02}
#*************************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*************************************************************************************************************
R0094:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .404 1994.0629_13:00  289.36 .536     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0094:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .404 1994.0629_13:00  289.36  n/a     .000
                 out <=   5.0 01:W1-LID         2.30     .001 1994.0322_ 1:35  289.37  n/a     .000
            overflow <=   5.0 03:W1-LID-Out     6.62     .399 1994.0629_13:00  289.36  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.1916E+01  m3, N-Ovf=  105, TotDurOvf=  117.hrs}
R0094:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .475 1994.0629_13:00  285.81 .529     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0094:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .475 1994.0629_13:00  285.81  n/a     .000
                 out <=   5.0 01:W2-LID         2.61     .001 1994.0322_ 1:25  285.81  n/a     .000
            overflow <=   5.0 03:W2-LID-Out     8.14     .468 1994.0629_13:00  285.81  n/a     .000
```

```
   {MxStoUsed=.1999E-01  m3, TotOvfVol=.2327E+01  m3, N-Ovf=  112, TotDurOvf=  124.hrs}
R0094:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:W3            6.30     .249 1994.0629_13:00  247.94 .459     .000
     [XIMP=.53:TIMP=.63]
     [LOSS= 2 :CN= 71.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0094:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->    5.0 02:W3            6.30     .249 1994.0629_13:00  247.94  n/a     .000
              out <=    5.0 01:W3-LID        1.40     .001 1994.0322_ 1:20  247.94  n/a     .000
         overflow <=    5.0 03:W3-LID-Out    4.90     .244 1994.0629_13:00  247.94  n/a     .000
   {MxStoUsed=.9588E-02  m3, TotOvfVol=.1214E+01  m3, N-Ovf=  109, TotDurOvf=  127.hrs}
R0094:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:W4            8.18     .340 1994.0629_13:00  262.21 .485     .000
     [XIMP=.57:TIMP=.67]
     [LOSS= 2 :CN= 71.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0094:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->    5.0 02:W4            8.18     .340 1994.0629_13:00  262.21  n/a     .000
              out <=    5.0 01:W4-LID        1.84     .001 1994.0322_ 1:20  262.22  n/a     .000
         overflow <=    5.0 03:W4-LID-Out    6.34     .334 1994.0629_13:00  262.21  n/a     .000
   {MxStoUsed=.1310E-01  m3, TotOvfVol=.1662E+01  m3, N-Ovf=  111, TotDurOvf=  128.hrs}
R0094:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:W1            8.92     .404 1994.0629_13:00  289.36  n/a     .000
                  +     5.0 02:W2           10.75     .475 1994.0629_13:00  285.81  n/a     .000
                  +     5.0 02:W3            6.30     .249 1994.0629_13:00  247.94  n/a     .000
                  +     5.0 02:W4            8.18     .340 1994.0629_13:00  262.21  n/a     .000
               SUM=     5.0 01:BCD-PH3      34.15    1.469 1994.0629_13:00  274.10  n/a     .000
R0094:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:W1-LID-Out    6.62     .399 1994.0629_13:00  289.36  n/a     .000
                  +     5.0 02:W2-LID-Out    8.14     .468 1994.0629_13:00  285.81  n/a     .000
                  +     5.0 02:W3-LID-Out    4.90     .244 1994.0629_13:00  247.94  n/a     .000
                  +     5.0 02:W4-LID-Out    6.34     .334 1994.0629_13:00  262.21  n/a     .000
               SUM=     5.0 01:BCD-PH3-LI   26.00    1.445 1994.0629_13:00  273.83  n/a     .000
#*****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0094:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .520 1994.0629_13:00  353.48 .654     .000
     [XIMP=.66:TIMP=.71]
     [LOSS= 2 :CN=100.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0094:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .623 1994.0629_13:00  351.67 .651     .000
     [XIMP=.65:TIMP=.70]
     [LOSS= 2 :CN=100.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0094:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .363 1994.0629_13:00  339.63 .629     .000
     [XIMP=.53:TIMP=.63]
     [LOSS= 2 :CN=100.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0094:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   5.0 01:INF-W4        8.18     .473 1994.0629_13:00  346.97 .642     .000
     [XIMP=.57:TIMP=.67]
     [LOSS= 2 :CN=100.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
     [IaRECimp=   1.50: IaRECper=   6.00]
     [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0094:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD               5.0 02:INF-W1        8.92     .520 1994.0629_13:00  353.48  n/a     .000
                  +     5.0 02:INF-W2       10.75     .623 1994.0629_13:00  351.67  n/a     .000
                  +     5.0 02:INF-W3        6.30     .363 1994.0629_13:00  339.63  n/a     .000
                  +     5.0 02:INF-W4        8.18     .473 1994.0629_13:00  346.97  n/a     .000
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                 SUM=     5.0 01:INF-BCD-PH    34.15    1.979 1994.0629_13:00  348.80  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   94

****************************************************************************************************





 RUN#:COMMAND#
R0095:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19950101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0095 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0095:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                            ]
      [Start_date= 1995.0101: End_date= 1995.1231]
      {DT= 60.min: Length= 8040.hrs: WetHrs=  332: DryHrs= 7708: PTOT= 538.50}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       16.90    13.25    11.33     8.98     6.35     3.48     2.95     2.21     1.48    mm/hr
       16.90    26.50    34.00    53.90    76.20    83.40   106.20   106.20   106.20    mm
      19950603 19950603 19951006 19951006 19951006 19951006 19951007 19951007 19951008  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          91       73       65       55       47       41       34       31       25
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          90       54       35       16        7        1        0        0        0
R0095:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 99.57: APIavg= 16.58: APImin=   .00}
#***************************************************************************************************
#                    Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0095:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .312 1995.0603_ 2:00  352.28 .654     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0095:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .312 1995.0603_ 2:00  352.28  n/a     .000
                out <=    5.0 01:W1-LID         1.46     .001 1995.0113_15:35  352.28  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     7.46     .308 1995.0603_ 2:00  352.28  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2629E+01  m3, N-Ovf=   63, TotDurOvf=  154.hrs}
R0095:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .372 1995.0603_ 2:00  349.29 .649     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0095:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .372 1995.0603_ 2:00  349.29  n/a     .000
                out <=    5.0 01:W2-LID         1.66     .001 1995.0113_15:35  349.29  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     9.09     .366 1995.0603_ 2:00  349.29  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.3175E+01  m3, N-Ovf=   70, TotDurOvf=  157.hrs}
R0095:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

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    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .203 1995.0603_ 8:05  319.42 .593     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0095:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .203 1995.0603_ 8:05  319.42  n/a     .000
               out <=     5.0 01:W3-LID          .86     .001 1995.0113_15:35  319.42  n/a     .000
          overflow <=     5.0 03:W3-LID-Out     5.44     .202 1995.0603_ 8:05  319.42  n/a     .000
     {MxStoUsed=.9595E-02  m3, TotOvfVol=.1738E+01  m3, N-Ovf=   65, TotDurOvf=  159.hrs}
R0095:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .267 1995.0603_ 8:05  331.54 .616     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0095:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .267 1995.0603_ 8:05  331.54  n/a     .000
               out <=     5.0 01:W4-LID         1.14     .001 1995.0113_15:35  331.54  n/a     .000
          overflow <=     5.0 03:W4-LID-Out     7.04     .265 1995.0603_ 8:05  331.54  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.2333E+01  m3, N-Ovf=   70, TotDurOvf=  160.hrs}
R0095:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .312 1995.0603_ 2:00  352.28  n/a     .000
                    +     5.0 02:W2            10.75     .372 1995.0603_ 2:00  349.29  n/a     .000
                    +     5.0 02:W3             6.30     .203 1995.0603_ 8:05  319.42  n/a     .000
                    +     5.0 02:W4             8.18     .267 1995.0603_ 8:05  331.54  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15    1.145 1995.0603_ 2:00  340.31  n/a     .000
R0095:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     7.46     .308 1995.0603_ 2:00  352.28  n/a     .000
                    +     5.0 02:W2-LID-Out     9.09     .366 1995.0603_ 2:00  349.29  n/a     .000
                    +     5.0 02:W3-LID-Out     5.44     .202 1995.0603_ 8:05  319.42  n/a     .000
                    +     5.0 02:W4-LID-Out     7.04     .265 1995.0603_ 8:05  331.54  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    29.03    1.128 1995.0603_ 2:00  340.16  n/a     .000
#**************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#**************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************
R0095:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .405 1995.0603_ 2:00  413.01 .767     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0095:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .487 1995.0603_ 2:00  411.79 .765     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0095:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .288 1995.0603_ 2:00  403.66 .750     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0095:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .371 1995.0603_ 2:00  408.61 .759     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0095:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .405 1995.0603_ 2:00  413.01  n/a     .000
                    +     5.0 02:INF-W2        10.75     .487 1995.0603_ 2:00  411.79  n/a     .000
                    +     5.0 02:INF-W3         6.30     .288 1995.0603_ 2:00  403.66  n/a     .000
                    +     5.0 02:INF-W4         8.18     .371 1995.0603_ 2:00  408.61  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.551 1995.0603_ 2:00  409.85  n/a     .000
#################################################################################
```

```
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :    95
*****************************************************************************************
 RUN#:COMMAND#
R0096:C00001------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19960101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0096 ]
#*************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date         : 2021/Oct/18
#  Modeller     : J.Burnett, P.Eng.
#  Updated      : 2022/Dec/13 [LP]
#  Company      : J.F. Sabourin and Associates
#  License #    : 2582634
#*************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0096:C00002------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1996.0101: End_date= 1996.1230]
      {DT= 60.min: Length= 6552.hrs: WetHrs=  387: DryHrs= 6165: PTOT= 512.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       18.50    13.55     9.03     5.42     2.93     1.84     1.32     1.02      .70    mm/hr
       18.50    27.10    27.10    32.50    35.10    44.10    47.50    49.00    50.30    mm
      19960731 19960731 19960731 19960731 19960731 19961109 19961109 19961109 19961109  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         132      104       93       71       59       43       36       31       24
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         131       72       50       19        2        1        0        0        0
R0096:C00003------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 63.22: APIavg= 19.39: APImin=   .71}
#*************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#*************************************************************************************************
R0096:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .319 1996.0731_15:00  268.38 .524     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0096:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .319 1996.0731_15:00  268.38  n/a     .000
                out <=    5.0 01:W1-LID         2.54     .001 1996.0416_16:20  268.38  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.38     .315 1996.0731_15:00  268.38  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.1712E+01  m3, N-Ovf=  112, TotDurOvf=  144.hrs}
R0096:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .378 1996.0731_15:00  264.99 .517     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0096:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .378 1996.0731_15:00  264.99  n/a     .000
                out <=    5.0 01:W2-LID         2.89     .001 1996.0416_16:15  264.98  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     7.86     .374 1996.0731_15:00  264.99  n/a     .000
     {MxStoUsed=.1999E-01  m3, TotOvfVol=.2083E+01  m3, N-Ovf=  110, TotDurOvf=  151.hrs}
R0096:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .193 1996.0731_15:00  228.30 .446     .000
      [XIMP=.53:TIMP=.63]
```

```
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0096:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .193 1996.0731_15:00  228.30  n/a     .000
                out <=    5.0 01:W3-LID        1.58     .001 1996.0416_16:10  228.31  n/a     .000
           overflow <=    5.0 03:W3-LID-Out    4.72     .189 1996.0731_15:00  228.30  n/a     .000
     {MxStoUsed=.9599E-02  m3, TotOvfVol=.1079E+01  m3, N-Ovf=  111, TotDurOvf=  154.hrs}
R0096:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .265 1996.0731_15:00  241.96 .472     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0096:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .265 1996.0731_15:00  241.96  n/a     .000
                out <=    5.0 01:W4-LID        2.06     .001 1996.0416_16:10  241.96  n/a     .000
           overflow <=    5.0 03:W4-LID-Out    6.12     .260 1996.0731_15:00  241.96  n/a     .000
     {MxStoUsed=.1309E-01  m3, TotOvfVol=.1482E+01  m3, N-Ovf=  116, TotDurOvf=  155.hrs}
R0096:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .319 1996.0731_15:00  268.38  n/a     .000
                    +     5.0 02:W2           10.75     .378 1996.0731_15:00  264.99  n/a     .000
                    +     5.0 02:W3            6.30     .193 1996.0731_15:00  228.30  n/a     .000
                    +     5.0 02:W4            8.18     .265 1996.0731_15:00  241.96  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15    1.155 1996.0731_15:00  253.59  n/a     .000
R0096:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.38     .315 1996.0731_15:00  268.38  n/a     .000
                    +     5.0 02:W2-LID-Out    7.86     .374 1996.0731_15:00  264.99  n/a     .000
                    +     5.0 02:W3-LID-Out    4.72     .189 1996.0731_15:00  228.30  n/a     .000
                    +     5.0 02:W4-LID-Out    6.12     .260 1996.0731_15:00  241.96  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   25.09    1.138 1996.0731_15:00  253.32  n/a     .000
#****************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#****************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#****************************************************************************************************
R0096:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .415 1996.0731_15:00  325.58 .636     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0096:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .496 1996.0731_15:00  323.72 .632     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0096:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .294 1996.0731_15:00  310.77 .607     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0096:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4        8.18     .384 1996.0731_15:00  318.36 .622     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0096:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1        8.92     .415 1996.0731_15:00  325.58  n/a     .000
                    +     5.0 02:INF-W2       10.75     .496 1996.0731_15:00  323.72  n/a     .000
                    +     5.0 02:INF-W3        6.30     .294 1996.0731_15:00  310.77  n/a     .000
                    +     5.0 02:INF-W4        8.18     .384 1996.0731_15:00  318.36  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH   34.15    1.590 1996.0731_15:00  320.53  n/a     .000
#################################################################################
# CONTINUOUS RAINFALL DATA
#################################################################################
```

```
  ** END OF RUN :   96

******************************************************************************************





 RUN#:COMMAND#
R0097:C00001------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19970101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0097 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0097:C00002------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1997.0101: End_date= 1997.1231]
      {DT= 60.min: Length= 8040.hrs: WetHrs=  379: DryHrs= 7661: PTOT= 433.20}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       12.50     7.60     5.67     4.43     2.91     1.68     1.12      .84      .63    mm/hr
       12.50    15.20    17.00    26.60    34.90    40.40    40.40    40.40    45.30    mm
      19970622 19970622 19970622 19970221 19970222 19970222 19970222 19970222 19970222  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         113       92       83       67       61       55       48       43       30
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         112       70       46       20        4        0        0        0        0
R0097:C00003------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 50.00: APIavg= 13.66: APImin=   .27}
#***************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0097:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .212 1997.0622_ 4:00  226.27 .522     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0097:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .212 1997.0622_ 4:00  226.27  n/a     .000
                out <=    5.0 01:W1-LID         2.71     .001 1997.0219_19:20  226.27  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.21     .209 1997.0622_ 4:00  226.27  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.1405E+01  m3, N-Ovf=   81, TotDurOvf=  158.hrs}
R0097:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .249 1997.0622_ 4:00  223.23 .515     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0097:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .249 1997.0622_ 4:00  223.23  n/a     .000
                out <=    5.0 01:W2-LID         3.09     .001 1997.0219_19:00  223.23  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     7.66     .246 1997.0622_ 4:00  223.23  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.1710E+01  m3, N-Ovf=   85, TotDurOvf=  163.hrs}
R0097:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .126 1997.0622_ 4:00  189.53 .438     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
```

```
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0097:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .126 1997.0622_ 4:00  189.53  n/a     .000
                 out <=   5.0 01:W3-LID         1.71     .001 1997.0219_18:50  189.53  n/a     .000
            overflow <=   5.0 03:W3-LID-Out     4.59     .124 1997.0622_ 4:00  189.53  n/a     .000
      {MxStoUsed=.9597E-02  m3, TotOvfVol=.8705E+00  m3, N-Ovf=   88, TotDurOvf=  167.hrs}
R0097:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .174 1997.0622_ 4:00  201.76 .466     .000
       [XIMP=.57:TIMP=.67]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0097:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .174 1997.0622_ 4:00  201.76  n/a     .000
                 out <=   5.0 01:W4-LID         2.22     .001 1997.0219_18:50  201.76  n/a     .000
            overflow <=   5.0 03:W4-LID-Out     5.96     .171 1997.0622_ 4:00  201.76  n/a     .000
      {MxStoUsed=.1310E-01  m3, TotOvfVol=.1202E+01  m3, N-Ovf=   93, TotDurOvf=  167.hrs}
R0097:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .212 1997.0622_ 4:00  226.27  n/a     .000
                    +     5.0 02:W2            10.75     .249 1997.0622_ 4:00  223.23  n/a     .000
                    +     5.0 02:W3             6.30     .126 1997.0622_ 4:00  189.53  n/a     .000
                    +     5.0 02:W4             8.18     .174 1997.0622_ 4:00  201.76  n/a     .000
                  SUM=    5.0 01:BCD-PH3       34.15     .760 1997.0622_ 4:00  212.66  n/a     .000
R0097:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.21     .209 1997.0622_ 4:00  226.27  n/a     .000
                    +     5.0 02:W2-LID-Out     7.66     .246 1997.0622_ 4:00  223.23  n/a     .000
                    +     5.0 02:W3-LID-Out     4.59     .124 1997.0622_ 4:00  189.53  n/a     .000
                    +     5.0 02:W4-LID-Out     5.96     .171 1997.0622_ 4:00  201.76  n/a     .000
                  SUM=    5.0 01:BCD-PH3-LI    24.42     .751 1997.0622_ 4:00  212.43  n/a     .000
#*****************************************************************************************************
#                   Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                   Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0097:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .282 1997.0622_ 4:00  278.62 .643     .000
       [XIMP=.66:TIMP=.71]
       [LOSS= 2 :CN=100.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0097:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .333 1997.0622_ 4:00  276.95 .639     .000
       [XIMP=.65:TIMP=.70]
       [LOSS= 2 :CN=100.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0097:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .197 1997.0622_ 4:00  265.55 .613     .000
       [XIMP=.53:TIMP=.63]
       [LOSS= 2 :CN=100.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0097:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .257 1997.0622_ 4:00  272.33 .629     .000
       [XIMP=.57:TIMP=.67]
       [LOSS= 2 :CN=100.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0097:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .282 1997.0622_ 4:00  278.62  n/a     .000
                    +     5.0 02:INF-W2        10.75     .333 1997.0622_ 4:00  276.95  n/a     .000
                    +     5.0 02:INF-W3         6.30     .197 1997.0622_ 4:00  265.55  n/a     .000
                    +     5.0 02:INF-W4         8.18     .257 1997.0622_ 4:00  272.33  n/a     .000
                  SUM=    5.0 01:INF-BCD-PH    34.15    1.069 1997.0622_ 4:00  274.18  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :    97

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*******************************************************************************************




 RUN#:COMMAND#
R0098:C00001----------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on 19980101]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   0 ]
       [NRUN  = 0098 ]
#***************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0098:C00002----------------------------------------------------------------------------------------
   *  READ AES DATA
       [Filename  = YOW_1967_2007.123                                            ]
       [Start_date= 1998.0101: End_date= 1998.1231]
       {DT= 60.min: Length= 5088.hrs: WetHrs=  291: DryHrs= 4797: PTOT= 440.30}
       Maximum average rainfall intensities over
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
        15.80     8.90     7.60     4.00     2.54     1.82     1.27      .95      .76    mm/hr
        15.80    17.80    22.80    24.00    30.50    43.60    45.80    45.80    54.60    mm
       19980716 19980627 19980927 19980927 19980927 19980927 19980928 19980928 19980615  date
       Number of rainfall events per following interevent time
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          126      104       95       78       63       42       37       32       21
       Number of events with at least the following durations
         1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
          125       64       43        8        1        0        0        0        0
R0098:C00003----------------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
       {APImax= 57.22: APIavg= 21.28: APImin=  1.69}
#***************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************
R0098:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W1            8.92     .270 1998.0627_ 1:00  220.99 .502     .000
       [XIMP=.66:TIMP=.71]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0098:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W1            8.92     .270 1998.0627_ 1:00  220.99  n/a     .000
                 out <=    5.0 01:W1-LID        2.57     .001 1998.0424_17:35  220.99  n/a     .000
            overflow <=    5.0 03:W1-LID-Out    6.35     .267 1998.0627_ 1:00  220.99  n/a     .000
      {MxStoUsed=.1789E-01  m3, TotOvfVol=.1404E+01  m3, N-Ovf=   97, TotDurOvf=  104.hrs}
R0098:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W2           10.75     .321 1998.0627_ 1:00  218.10 .495     .000
       [XIMP=.65:TIMP=.70]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
       [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0098:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    5.0 02:W2           10.75     .321 1998.0627_ 1:00  218.10  n/a     .000
                 out <=    5.0 01:W2-LID        2.93     .001 1998.0424_17:30  218.10  n/a     .000
            overflow <=    5.0 03:W2-LID-Out    7.82     .317 1998.0627_ 1:00  218.10  n/a     .000
      {MxStoUsed=.2000E-01  m3, TotOvfVol=.1705E+01  m3, N-Ovf=  102, TotDurOvf=  109.hrs}
R0098:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   5.0 01:W3            6.30     .161 1998.0627_ 1:00  186.61 .424     .000
       [XIMP=.53:TIMP=.63]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
       [IaRECimp=   1.50: IaRECper=   6.00]
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      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0098:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .161 1998.0627_ 1:00  186.61  n/a     .000
               out <=    5.0 01:W3-LID         1.61     .001 1998.0424_17:30  186.61  n/a     .000
          overflow <=    5.0 03:W3-LID-Out     4.69     .159 1998.0627_ 1:00  186.61  n/a     .000
     {MxStoUsed=.9600E-02  m3, TotOvfVol=.8746E+00  m3, N-Ovf=  105, TotDurOvf=  113.hrs}
R0098:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .222 1998.0627_ 1:00  198.22 .450     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0098:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .222 1998.0627_ 1:00  198.22  n/a     .000
               out <=    5.0 01:W4-LID         2.10     .001 1998.0424_17:30  198.22  n/a     .000
          overflow <=    5.0 03:W4-LID-Out     6.08     .219 1998.0627_ 1:00  198.22  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1204E+01  m3, N-Ovf=  101, TotDurOvf=  113.hrs}
R0098:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .270 1998.0627_ 1:00  220.99  n/a     .000
                    +     5.0 02:W2            10.75     .321 1998.0627_ 1:00  218.10  n/a     .000
                    +     5.0 02:W3             6.30     .161 1998.0627_ 1:00  186.61  n/a     .000
                    +     5.0 02:W4             8.18     .222 1998.0627_ 1:00  198.22  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15     .974 1998.0627_ 1:00  208.28  n/a     .000
R0098:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.35     .267 1998.0627_ 1:00  220.99  n/a     .000
                    +     5.0 02:W2-LID-Out     7.82     .317 1998.0627_ 1:00  218.10  n/a     .000
                    +     5.0 02:W3-LID-Out     4.69     .159 1998.0627_ 1:00  186.61  n/a     .000
                    +     5.0 02:W4-LID-Out     6.08     .219 1998.0627_ 1:00  198.22  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    24.93     .962 1998.0627_ 1:00  208.07  n/a     .000
#**************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#**************************************************************************************************
#                Set infiltration to 0 (CN = 99.99) for water balance analysis
#**************************************************************************************************
R0098:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .355 1998.0627_ 1:00  271.31 .616     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0098:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .425 1998.0627_ 1:00  269.77 .613     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0098:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .247 1998.0627_ 1:00  259.04 .588     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0098:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .323 1998.0627_ 1:00  265.31 .603     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0098:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .355 1998.0627_ 1:00  271.31  n/a     .000
                    +     5.0 02:INF-W2        10.75     .425 1998.0627_ 1:00  269.77  n/a     .000
                    +     5.0 02:INF-W3         6.30     .247 1998.0627_ 1:00  259.04  n/a     .000
                    +     5.0 02:INF-W4         8.18     .323 1998.0627_ 1:00  265.32  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.351 1998.0627_ 1:00  267.12  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :   98

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 RUN#:COMMAND#
R0099:C00001--------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 19990101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0099 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0099:C00002--------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 1999.0101: End_date= 1999.1231]
      {DT= 60.min: Length= 4440.hrs: WetHrs=  247: DryHrs= 4193: PTOT= 424.40}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       17.50    10.10     9.03     6.57     3.31     1.65     1.45     1.22      .97    mm/hr
       17.50    20.20    27.10    39.40    39.70    39.70    52.20    58.60    69.50    mm
      19990717 19990717 19990906 19990906 19990906 19990906 19990907 19990908 19990908  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         102       80       70       63       56       39       31       28       18
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         101       57       31       10        1        0        0        0        0
R0099:C00003--------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 69.51: APIavg= 23.97: APImin=  1.93}
#**************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************
R0099:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .296 1999.0717_15:00  224.02 .528     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0099:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .296 1999.0717_15:00  224.02  n/a     .000
               out <=     5.0 01:W1-LID         2.24     .001 1999.0508_17:50  224.02  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.68     .293 1999.0717_15:00  224.02  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.1497E+01  m3, N-Ovf=   96, TotDurOvf=   96.hrs}
R0099:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .351 1999.0717_15:00  221.08 .521     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0099:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .351 1999.0717_15:00  221.08  n/a     .000
               out <=     5.0 01:W2-LID         2.53     .001 1999.0508_17:40  221.08  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     8.22     .348 1999.0717_15:00  221.08  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.1817E+01  m3, N-Ovf=   95, TotDurOvf=  101.hrs}
R0099:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .176 1999.0717_15:00  189.03 .445     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
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# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0099:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .176 1999.0717_15:00  189.03  n/a     .000
                out <=    5.0 01:W3-LID        1.38     .001 1999.0508_17:35  189.02  n/a     .000
           overflow <=    5.0 03:W3-LID-Out    4.92     .174 1999.0717_15:00  189.03  n/a     .000
     {MxStoUsed=.9598E-02  m3, TotOvfVol=.9294E+00  m3, N-Ovf=  105, TotDurOvf=  103.hrs}
R0099:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .243 1999.0717_15:00  200.84 .473     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0099:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .243 1999.0717_15:00  200.84  n/a     .000
                out <=    5.0 01:W4-LID        1.80     .001 1999.0508_17:35  200.84  n/a     .000
           overflow <=    5.0 03:W4-LID-Out    6.38     .240 1999.0717_15:00  200.84  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1281E+01  m3, N-Ovf=   94, TotDurOvf=  104.hrs}
R0099:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .296 1999.0717_15:00  224.02  n/a     .000
                    +     5.0 02:W2           10.75     .351 1999.0717_15:00  221.08  n/a     .000
                    +     5.0 02:W3            6.30     .176 1999.0717_15:00  189.03  n/a     .000
                    +     5.0 02:W4            8.18     .243 1999.0717_15:00  200.84  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15    1.066 1999.0717_15:00  211.09  n/a     .000
R0099:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    6.68     .293 1999.0717_15:00  224.02  n/a     .000
                    +     5.0 02:W2-LID-Out    8.22     .348 1999.0717_15:00  221.08  n/a     .000
                    +     5.0 02:W3-LID-Out    4.92     .174 1999.0717_15:00  189.03  n/a     .000
                    +     5.0 02:W4-LID-Out    6.38     .240 1999.0717_15:00  200.84  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   26.20    1.055 1999.0717_15:00  210.89  n/a     .000
#*******************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*******************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#*******************************************************************************************************
R0099:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92     .391 1999.0717_15:00  277.73 .654     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0099:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75     .467 1999.0717_15:00  276.22 .651     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0099:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .276 1999.0717_15:00  266.49 .628     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0099:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4        8.18     .355 1999.0717_15:00  272.58 .642     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0099:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1        8.92     .391 1999.0717_15:00  277.73  n/a     .000
                    +     5.0 02:INF-W2       10.75     .467 1999.0717_15:00  276.22  n/a     .000
                    +     5.0 02:INF-W3        6.30     .276 1999.0717_15:00  266.49  n/a     .000
                    +     5.0 02:INF-W4        8.18     .355 1999.0717_15:00  272.58  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH   34.15    1.489 1999.0717_15:00  273.94  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
  ** END OF RUN :   99

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 RUN#:COMMAND#
R0100:C00001------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 20000101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0100 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0100:C00002------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 2000.0101: End_date= 2000.1230]
      {DT= 60.min: Length= 5160.hrs: WetHrs=  401: DryHrs= 4759: PTOT= 535.90}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       14.70     9.60     8.03     6.43     3.89     1.95     1.30     1.03      .84    mm/hr
       14.70    19.20    24.10    38.60    46.70    46.70    46.80    49.30    60.40    mm
      20000625 20000625 20000625 20000625 20000625 20000625 20000626 20000510 20000511  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         156      125      110       86       67       46       34       30       23
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         155       82       49       16        2        0        0        0        0
R0100:C00003------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 76.65: APIavg= 25.66: APImin=  5.70}
#**************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************
R0100:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .307 2000.0625_10:00  278.30 .519     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0100:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .307 2000.0625_10:00  278.30  n/a     .000
                out <=    5.0 01:W1-LID         2.33     .001 2000.0421_ 4:30  278.30  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.59     .302 2000.0625_10:00  278.30  n/a     .000
     {MxStoUsed=.1789E-01  m3, TotOvfVol=.1835E+01  m3, N-Ovf=   92, TotDurOvf=  134.hrs}
R0100:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .366 2000.0625_10:00  274.90 .513     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0100:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .366 2000.0625_10:00  274.90  n/a     .000
                out <=    5.0 01:W2-LID         2.66     .001 2000.0421_ 4:25  274.90  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     8.09     .360 2000.0625_10:00  274.90  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2225E+01  m3, N-Ovf=   96, TotDurOvf=  139.hrs}
R0100:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .206 2000.0625_10:00  238.49 .445     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
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# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0100:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .206 2000.0625_10:00  238.49  n/a     .000
                 out <=   5.0 01:W3-LID         1.44     .001 2000.0421_ 4:20  238.49  n/a     .000
           overflow <=    5.0 03:W3-LID-Out     4.86     .202 2000.0625_10:00  238.49  n/a     .000
     {MxStoUsed=.9599E-02  m3, TotOvfVol=.1159E+01  m3, N-Ovf=  105, TotDurOvf=  140.hrs}
R0100:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .273 2000.0625_10:00  252.42 .471     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0100:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .273 2000.0625_10:00  252.42  n/a     .000
                 out <=   5.0 01:W4-LID         1.89     .001 2000.0421_ 4:20  252.42  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     6.29     .268 2000.0625_10:00  252.42  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.1589E+01  m3, N-Ovf=  104, TotDurOvf=  141.hrs}
R0100:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .307 2000.0625_10:00  278.30  n/a     .000
                    +     5.0 02:W2            10.75     .366 2000.0625_10:00  274.90  n/a     .000
                    +     5.0 02:W3             6.30     .206 2000.0625_10:00  238.49  n/a     .000
                    +     5.0 02:W4             8.18     .273 2000.0625_10:00  252.42  n/a     .000
                 SUM=     5.0 01:BCD-PH3       34.15    1.153 2000.0625_10:00  263.68  n/a     .000
R0100:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.59     .302 2000.0625_10:00  278.30  n/a     .000
                    +     5.0 02:W2-LID-Out     8.09     .360 2000.0625_10:00  274.90  n/a     .000
                    +     5.0 02:W3-LID-Out     4.86     .202 2000.0625_10:00  238.49  n/a     .000
                    +     5.0 02:W4-LID-Out     6.29     .268 2000.0625_10:00  252.42  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI    25.84    1.132 2000.0625_10:00  263.44  n/a     .000
#***************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#***************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************
R0100:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .351 2000.0625_10:00  338.07 .631     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0100:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .421 2000.0625_10:00  336.31 .628     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0100:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .246 2000.0625_10:00  323.88 .604     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0100:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .320 2000.0625_10:00  331.13 .618     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0100:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .351 2000.0625_10:00  338.07  n/a     .000
                    +     5.0 02:INF-W2        10.75     .421 2000.0625_10:00  336.31  n/a     .000
                    +     5.0 02:INF-W3         6.30     .246 2000.0625_10:00  323.88  n/a     .000
                    +     5.0 02:INF-W4         8.18     .320 2000.0625_10:00  331.13  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH    34.15    1.338 2000.0625_10:00  333.24  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :  101

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 RUN#:COMMAND#
R0102:C00001----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on 20020101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0102 ]
#***************************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#***************************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0102:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                       ]
      [Start_date= 2002.0101: End_date= 2002.1231]
      {DT= 60.min: Length= 5088.hrs: WetHrs=  304: DryHrs= 4784: PTOT= 551.50}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       45.00    26.75    18.40     9.48     4.74     2.48     2.08     1.56     1.04    mm/hr
       45.00    53.50    55.20    56.90    56.90    59.50    74.90    74.90    74.90    mm
      20020627 20020627 20020627 20020627 20020627 20020627 20020627 20020628 20020629  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         100       83       78       56       47       41       36       34       25
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         100       59       33       13        5        0        0        0        0
R0102:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax=114.06: APIavg= 26.37: APImin=  4.40}
#***************************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#***************************************************************************************************************
R0102:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .978 2002.0627_14:00  331.06 .600     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0102:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .978 2002.0627_14:00  331.06  n/a     .000
                 out <=    5.0 01:W1-LID         1.68     .001 2002.0412_23:20  331.07  n/a     .000
            overflow <=    5.0 03:W1-LID-Out     7.24     .954 2002.0627_14:00  331.06  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2397E+01  m3, N-Ovf=   79, TotDurOvf=  141.hrs}
R0102:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75    1.171 2002.0627_14:00  327.38 .594     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0102:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75    1.171 2002.0627_14:00  327.38  n/a     .000
                 out <=    5.0 01:W2-LID         1.89     .001 2002.0412_23:20  327.38  n/a     .000
            overflow <=    5.0 03:W2-LID-Out     8.86    1.140 2002.0627_14:00  327.38  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2899E+01  m3, N-Ovf=   85, TotDurOvf=  143.hrs}
R0102:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .669 2002.0627_14:00  290.95 .528     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0102:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

```
    ROUTE RESERVOIR ->    5.0 02:W3            6.30     .669 2002.0627_14:00  290.95  n/a     .000
                out <=    5.0 01:W3-LID        1.00     .001 2002.0412_23:15  290.96  n/a     .000
           overflow <=    5.0 03:W3-LID-Out    5.30     .644 2002.0627_14:00  290.95  n/a     .000
     {MxStoUsed=.9599E-02  m3, TotOvfVol=.1541E+01  m3, N-Ovf=   87, TotDurOvf=  146.hrs}
R0102:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4            8.18     .882 2002.0627_14:00  305.09 .553     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0102:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4            8.18     .882 2002.0627_14:00  305.09  n/a     .000
                out <=    5.0 01:W4-LID        1.32     .001 2002.0412_23:15  305.09  n/a     .000
           overflow <=    5.0 03:W4-LID-Out    6.86     .853 2002.0627_14:00  305.09  n/a     .000
     {MxStoUsed=.1310E-01  m3, TotOvfVol=.2094E+01  m3, N-Ovf=   82, TotDurOvf=  147.hrs}
R0102:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1            8.92     .978 2002.0627_14:00  331.06  n/a     .000
                    +     5.0 02:W2           10.75    1.171 2002.0627_14:00  327.38  n/a     .000
                    +     5.0 02:W3            6.30     .669 2002.0627_14:00  290.95  n/a     .000
                    +     5.0 02:W4            8.18     .882 2002.0627_14:00  305.09  n/a     .000
                 SUM=     5.0 01:BCD-PH3      34.15    3.700 2002.0627_14:00  316.28  n/a     .000
R0102:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out    7.24     .954 2002.0627_14:00  331.06  n/a     .000
                    +     5.0 02:W2-LID-Out    8.86    1.140 2002.0627_14:00  327.38  n/a     .000
                    +     5.0 02:W3-LID-Out    5.30     .644 2002.0627_14:00  290.95  n/a     .000
                    +     5.0 02:W4-LID-Out    6.86     .853 2002.0627_14:00  305.09  n/a     .000
                 SUM=     5.0 01:BCD-PH3-LI   28.26    3.592 2002.0627_14:00  316.08  n/a     .000
#*****************************************************************************************************
#                 Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#*****************************************************************************************************
#                 Set infiltration to 0 (CN = 99.99) for water balance analysis
#*****************************************************************************************************
R0102:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1        8.92    1.105 2002.0627_14:00  401.51 .728     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0102:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2       10.75    1.330 2002.0627_14:00  399.97 .725     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0102:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3        6.30     .781 2002.0627_14:00  390.15 .707     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0102:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4        8.18    1.013 2002.0627_14:00  396.36 .719     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0102:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1        8.92    1.105 2002.0627_14:00  401.51  n/a     .000
                    +     5.0 02:INF-W2       10.75    1.330 2002.0627_14:00  399.97  n/a     .000
                    +     5.0 02:INF-W3        6.30     .781 2002.0627_14:00  390.15  n/a     .000
                    +     5.0 02:INF-W4        8.18    1.013 2002.0627_14:00  396.36  n/a     .000
                 SUM=     5.0 01:INF-BCD-PH   34.15    4.228 2002.0627_14:00  397.70  n/a     .000
################################################################################
# CONTINUOUS RAINFALL DATA
################################################################################
  ** END OF RUN :  102

*******************************************************************************************************






 RUN#:COMMAND#
R0103:C00001-------------------------------------------------------------------------------------
```

```
     START
      [TZERO =    .00 hrs on 20030101]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   0 ]
      [NRUN  = 0103 ]
#**************************************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************************************
#  Project Name: Barrhaven Conservancy Development
#  Project Number: 1474
#  Date        : 2021/Oct/18
#  Modeller    : J.Burnett, P.Eng.
#  Updated     : 2022/Dec/13 [LP]
#  Company     : J.F. Sabourin and Associates
#  License #   : 2582634
#**************************************************************************************************
# Ottawa International Airport (1967 - 2003)
R0103:C00002----------------------------------------------------------------------------------------
  *  READ AES DATA
      [Filename  = YOW_1967_2007.123                                          ]
      [Start_date= 2003.0101: End_date= 2003.1231]
      {DT= 60.min: Length= 4440.hrs: WetHrs=  406: DryHrs= 4034: PTOT= 554.60}
      Maximum average rainfall intensities over
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
       15.10    10.00     7.13     4.28     3.18     1.86     1.25      .94      .81    mm/hr
       15.10    20.00    21.40    25.70    38.20    44.60    44.90    45.10    58.30    mm
      20030711 20030711 20030711 20030711 20031021 20031015 20030525 20030526 20030527  date
      Number of rainfall events per following interevent time
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         145      127      109       86       64       45       38       25       15
      Number of events with at least the following durations
        1 hr    2 hrs    3 hrs    6 hrs   12 hrs   24 hrs   36 hrs   48 hrs   72 hrs
         144       80       43       13        5        1        0        0        0
R0103:C00003----------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .9000: APIkdt= .9956]
      {APImax= 72.10: APIavg= 28.54: APImin=  4.70}
#**************************************************************************************************
#                Barrhaven Conservancy Development Phase 3 (WITH INFILTRATION)  - POST DEVELOPMENT CONDITION
#**************************************************************************************************
R0103:C00004------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W1             8.92     .297 2003.0711_17:00  305.89 .552     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W1 (26 catchbasins, 30 m long trench each)
# Assumed 780 m long trench 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 179 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0103:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W1             8.92     .297 2003.0711_17:00  305.89  n/a     .000
                out <=    5.0 01:W1-LID         2.30     .001 2003.0501_10:25  305.90  n/a     .000
           overflow <=    5.0 03:W1-LID-Out     6.62     .292 2003.0711_17:00  305.89  n/a     .000
     {MxStoUsed=.1790E-01  m3, TotOvfVol=.2026E+01  m3, N-Ovf=   97, TotDurOvf=  161.hrs}
R0103:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W2            10.75     .350 2003.0711_17:00  302.35 .545     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W2 (29 catchbasins, 30 m long trench each)
# Assumed 870 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 200 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0103:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W2            10.75     .350 2003.0711_17:00  302.35  n/a     .000
                out <=    5.0 01:W2-LID         2.62     .001 2003.0501_10:15  302.34  n/a     .000
           overflow <=    5.0 03:W2-LID-Out     8.13     .345 2003.0711_17:00  302.35  n/a     .000
     {MxStoUsed=.2000E-01  m3, TotOvfVol=.2457E+01  m3, N-Ovf=  103, TotDurOvf=  166.hrs}
R0103:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W3             6.30     .194 2003.0711_17:00  265.05 .478     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W3 (14 catchbasins, 30 m long trench each)
# Assumed 420 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 96 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0103:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W3             6.30     .194 2003.0711_17:00  265.05  n/a     .000
                out <=    5.0 01:W3-LID         1.40     .001 2003.0501_ 5:30  265.06  n/a     .000
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           overflow <=    5.0 03:W3-LID-Out     4.90     .189 2003.0711_17:00  265.05  n/a     .000
      {MxStoUsed=.9599E-02  m3, TotOvfVol=.1298E+01  m3, N-Ovf=  101, TotDurOvf=  167.hrs}
R0103:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:W4             8.18     .260 2003.0711_17:00  279.28 .504     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN= 41.38: SMAX=275.84: SK= .030]
# LID for Outlet W4 (26 catchbasins, 30 m long trench each)
# Assumed 570 m long trench, 1.25 m wide by 0.40 m deep, porosity of 0.40 with 250 mm diameter perforated pipe
# Total Volume provided by LID  - 131 m³
# Soil infiltration rates assumed at 9mm/hr with a safety factor of 2.5
R0103:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    5.0 02:W4             8.18     .260 2003.0711_17:00  279.28  n/a     .000
                out <=    5.0 01:W4-LID         1.85     .001 2003.0501_ 5:10  279.28  n/a     .000
           overflow <=    5.0 03:W4-LID-Out     6.33     .254 2003.0711_17:00  279.28  n/a     .000
      {MxStoUsed=.1309E-01  m3, TotOvfVol=.1769E+01  m3, N-Ovf=  103, TotDurOvf=  169.hrs}
R0103:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1             8.92     .297 2003.0711_17:00  305.89  n/a     .000
                  +       5.0 02:W2            10.75     .350 2003.0711_17:00  302.35  n/a     .000
                  +       5.0 02:W3             6.30     .194 2003.0711_17:00  265.05  n/a     .000
                  +       5.0 02:W4             8.18     .260 2003.0711_17:00  279.28  n/a     .000
               SUM=       5.0 01:BCD-PH3       34.15    1.100 2003.0711_17:00  290.87  n/a     .000
R0103:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:W1-LID-Out     6.62     .292 2003.0711_17:00  305.89  n/a     .000
                  +       5.0 02:W2-LID-Out     8.13     .345 2003.0711_17:00  302.35  n/a     .000
                  +       5.0 02:W3-LID-Out     4.90     .189 2003.0711_17:00  265.05  n/a     .000
                  +       5.0 02:W4-LID-Out     6.33     .254 2003.0711_17:00  279.28  n/a     .000
               SUM=       5.0 01:BCD-PH3-LI    25.98    1.080 2003.0711_17:00  290.60  n/a     .000
#***************************************************************************************************************
#                  Barrhaven Conservancy Development Phase 3 (WITHOUT INFILTRATION)  - POST DEVELOPMENT CONDIT
#***************************************************************************************************************
#                  Set infiltration to 0 (CN = 99.99) for water balance analysis
#***************************************************************************************************************
R0103:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W1         8.92     .361 2003.0711_17:00  370.85 .669     .000
      [XIMP=.66:TIMP=.71]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 244.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0103:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W2        10.75     .433 2003.0711_17:00  369.11 .666     .000
      [XIMP=.65:TIMP=.70]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 268.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0103:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W3         6.30     .254 2003.0711_17:00  356.89 .644     .000
      [XIMP=.53:TIMP=.63]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 205.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0103:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   5.0 01:INF-W4         8.18     .330 2003.0711_17:00  363.86 .656     .000
      [XIMP=.57:TIMP=.67]
      [LOSS= 2 :CN=100.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   1.50: IaRECper=   6.00]
      [SMIN=  1.39: SMAX=  9.24: SK= .030]
R0103:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               5.0 02:INF-W1         8.92     .361 2003.0711_17:00  370.85  n/a     .000
                  +       5.0 02:INF-W2        10.75     .433 2003.0711_17:00  369.11  n/a     .000
                  +       5.0 02:INF-W3         6.30     .254 2003.0711_17:00  356.89  n/a     .000
                  +       5.0 02:INF-W4         8.18     .330 2003.0711_17:00  363.86  n/a     .000
               SUM=       5.0 01:INF-BCD-PH    34.15    1.378 2003.0711_17:00  366.05  n/a     .000
###############################################################################
# CONTINUOUS RAINFALL DATA
###############################################################################
R0103:C00002-------------------------------------------------------------------------------------
    FINISH
-------------------------------------------------------------------------------------------------
*************************************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
R0067:C00002  READ AES DATA
*** WARNING: Requested start date is less than start date in file.
*** WARNING: Missing rainfall increments were set to 0.
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*** WARNING: Missing rainfall increments were set to 0.
   Simulation ended on 2022-12-13     at 12:44:35
====================================================================================================
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Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment B

Water Budget Results

Table B1: BCD West - Pre Development Water Budget

Year	Total Rainfall		Evaporation		Runoff		Infiltration	
	(mm)	(m^3)	(mm)	(m^3)	(mm)	(m^3)	(mm)	(m^3)
1967	386.9	132,126	196.7	67,170	67.6	23,082	122.6	41,875
1968	592.8	202,441	335.4	114,539	73.2	24,988	184.2	62,915
1969	570.3	194,757	336.6	114,949	60.0	20,487	173.7	59,322
1970	558.9	190,864	336.4	114,891	57.1	19,506	165.4	56,467
1971	522.1	178,297	340.3	116,206	43.0	14,698	138.8	47,393
1972	784.3	267,838	408.9	139,636	130.5	44,569	244.9	83,633
1973	744.9	254,383	407.2	139,072	96.4	32,910	241.3	82,401
1974	386.2	131,887	266.4	90,972	26.1	8,913	93.7	32,002
1975	535.5	182,873	316.0	107,911	58.0	19,800	161.5	55,162
1976	493.2	168,428	323.2	110,356	40.0	13,653	130.1	44,419
1977	677.8	231,469	393.9	134,531	76.2	26,033	207.6	70,906
1978	641.4	219,038	371.6	126,888	58.3	19,920	211.5	72,231
1979	866.5	295,910	417.2	142,481	151.6	51,785	297.6	101,644
1980	622	212,413	367.9	125,621	63.3	21,607	190.9	65,186
1981	936.4	319,781	476.7	162,793	189.6	64,759	270.1	92,229
1982	596.1	203,568	367.4	125,471	51.2	17,471	177.5	60,626
1983	587.5	200,631	370.2	126,423	55.9	19,090	161.4	55,118
1984	459.4	156,885	252.2	86,123	53.9	18,421	153.3	52,342
1985	559.9	191,206	297.6	101,634	57.0	19,472	205.3	70,100
1986	849.4	290,070	431.3	147,303	156.2	53,339	261.9	89,429
1987	640.1	218,594	399.8	136,542	73.4	25,080	166.8	56,972
1988	643.8	219,858	388.1	132,533	71.8	24,509	183.9	62,816
1989	523.2	178,673	325.5	111,162	45.0	15,357	152.7	52,154
1990	727.8	248,544	415.9	142,033	91.7	31,302	220.2	75,209
1991	556	189,874	358.1	122,295	49.9	17,041	148.0	50,539
1992	732.8	250,251	406.4	138,796	101.6	34,707	224.7	76,749
1993	721.3	246,324	457.0	156,079	67.7	23,116	196.6	67,129
1994	540.2	184,478	312.8	106,821	64.5	22,010	163.0	55,647
1995	538.5	183,898	211.2	72,108	166.6	56,908	160.7	54,882
1996	512.2	174,916	317.1	108,303	50.4	17,215	144.7	49,398
1997	433.2	147,938	271.6	92,758	30.5	10,399	131.1	44,781
1998	440.3	150,362	277.2	94,664	35.5	12,130	127.6	43,569
1999	424.4	144,933	252.7	86,294	36.4	12,437	135.3	46,202
2000	535.9	183,010	321.3	109,707	60.7	20,719	154.0	52,584
2002	551.5	188,337	257.5	87,923	109.7	37,459	184.4	62,956
2003	554.6	189,396	302.7	103,379	81.9	27,959	170.0	58,058
Minimum	386.2	131,887	196.7	67,170	26.1	8,913	93.7	32,002
Maximum	936.4	319,781	476.7	162,793	189.6	64,759	297.6	101,644
Average	595.8	203,451	341.3	116,566	75.1	25,635	179.4	61,251
Percentage	100.0%	100.0%	57.3%	57.3%	12.6%	12.6%	30.1%	30.1%

Table B2: BCD Phase 3 - Post Development Water Budget - Without LIDs

Year	Total Rainfall		Runoff (No Infiltration)		Evaporation		Runoff		Infiltration	
	(mm)	(m^3)	(mm)	(m^3)	(mm)	(m^3)	(mm)	(m^3)	(mm)	(m^3)
1967	386.9	132,126	268.53	91,703	118.4	40,423	214.6	73,279	54.0	18,424
1968	592.8	202,441	387.03	132,171	205.8	70,270	304.3	103,908	82.8	28,263
1969	570.3	194,757	356.79	121,844	213.5	72,914	278.5	95,098	78.3	26,746
1970	558.9	190,864	348.80	119,115	210.1	71,749	273.0	93,223	75.8	25,893
1971	522.1	178,297	308.29	105,281	213.8	73,016	243.4	83,111	64.9	22,170
1972	784.3	267,838	536.57	183,239	247.7	84,600	427.1	145,858	109.5	37,381
1973	744.9	254,383	487.97	166,642	256.9	87,742	380.3	129,859	107.7	36,783
1974	386.2	131,887	217.52	74,283	168.7	57,604	172.6	58,957	44.9	15,327
1975	535.5	182,873	343.90	117,442	191.6	65,431	269.0	91,877	74.9	25,565
1976	493.2	168,428	287.00	98,011	206.2	70,417	226.3	77,264	60.8	20,746
1977	677.8	231,469	440.41	150,400	237.4	81,069	345.3	117,920	95.1	32,480
1978	641.4	219,038	423.01	144,458	218.4	74,580	327.0	111,671	96.0	32,787
1979	866.5	295,910	614.07	209,705	252.4	86,205	483.3	165,030	130.8	44,675
1980	622	212,413	402.39	137,416	219.6	74,997	314.9	107,535	87.5	29,881
1981	936.4	319,781	643.29	219,684	293.1	100,097	522.0	178,266	121.3	41,417
1982	596.1	203,568	382.43	130,600	213.7	72,968	299.9	102,423	82.5	28,177
1983	587.5	200,631	364.45	124,460	223.1	76,172	288.9	98,659	75.6	25,800
1984	459.4	156,885	309.41	105,664	150.0	51,222	240.7	82,182	68.8	23,482
1985	559.9	191,206	387.27	132,253	172.6	58,953	295.9	101,033	91.4	31,220
1986	849.4	290,070	589.63	201,359	259.8	88,711	473.1	161,574	116.5	39,785
1987	640.1	218,594	393.29	134,309	246.8	84,286	315.3	107,682	78.0	26,627
1988	643.8	219,858	399.91	136,569	243.9	83,288	316.5	108,085	83.4	28,485
1989	523.2	178,673	322.82	110,243	200.4	68,430	252.4	86,191	70.4	24,052
1990	727.8	248,544	466.26	159,228	261.5	89,316	367.2	125,395	99.1	33,832
1991	556	189,874	340.77	116,373	215.2	73,501	271.7	92,782	69.1	23,591
1992	732.8	250,251	481.05	164,279	251.8	85,973	380.0	129,777	101.0	34,502
1993	721.3	246,324	446.40	152,446	274.9	93,878	355.2	121,287	91.2	31,158
1994	540.2	184,478	348.80	119,115	191.4	65,363	274.1	93,605	74.7	25,510
1995	538.5	183,898	409.85	139,964	128.7	43,934	340.3	116,216	69.5	23,748
1996	512.2	174,916	320.53	109,461	191.7	65,455	253.6	86,601	66.9	22,860
1997	433.2	147,938	274.18	93,632	159.0	54,305	212.7	72,623	61.5	21,009
1998	440.3	150,362	267.12	91,221	173.2	59,141	208.3	71,128	58.8	20,094
1999	424.4	144,933	273.94	93,551	150.5	51,382	211.1	72,087	62.9	21,463
2000	535.9	183,010	333.24	113,801	202.7	69,208	263.7	90,047	69.6	23,755
2002	551.5	188,337	397.70	135,815	153.8	52,523	316.3	108,010	81.4	27,805
2003	554.6	189,396	366.05	125,006	188.6	64,390	290.9	99,332	75.2	25,674
Minimum	386.2	131,887	218	74283	118.4	40,423	172.6	58,957	44.9	15,327
Maximum	936.4	319,781	643	219684	293.1	100,097	522.0	178,266	130.8	44,675
Average	595.8	203,451	387	132243	208.5	71,209	305.8	104,433	81.4	27,810
Percentage	100.0%	100.0%	65.0%	65.0%	35.0%	35.0%	51.3%	51.3%	13.7%	13.7%

Table B3: BCD Phase 3- Post Development Water Budget - With LIDs

Year	Total Rainfall		Runoff (No Infiltration)		Evaporation		Runoff		Infiltration	
	(mm)	(m^3)	(mm)	(m^3)	(mm)	(m^3)	(mm)	(m^3)	(mm)	(m^3)
1967	386.9	132,126	268.53	91,703	118.4	40,423	173.2	59,140	95.4	32,563
1968	592.8	202,441	387.03	132,171	205.8	70,270	225.8	77,115	161.2	55,056
1969	570.3	194,757	356.79	121,844	213.5	72,914	206.4	70,498	150.4	51,345
1970	558.9	190,864	348.80	119,115	210.1	71,749	202.9	69,296	145.9	49,820
1971	522.1	178,297	308.29	105,281	213.8	73,016	171.3	58,487	137.0	46,794
1972	784.3	267,838	536.57	183,239	247.7	84,600	341.2	116,511	195.4	66,728
1973	744.9	254,383	487.97	166,642	256.9	87,742	297.7	101,672	190.2	64,970
1974	386.2	131,887	217.52	74,283	168.7	57,604	116.4	39,738	101.2	34,545
1975	535.5	182,873	343.90	117,442	191.6	65,431	202.8	69,259	141.1	48,182
1976	493.2	168,428	287.00	98,011	206.2	70,417	160.5	54,803	126.5	43,208
1977	677.8	231,469	440.41	150,400	237.4	81,069	258.3	88,201	182.1	62,199
1978	641.4	219,038	423.01	144,458	218.4	74,580	244.6	83,540	178.4	60,918
1979	866.5	295,910	614.07	209,705	252.4	86,205	393.5	134,397	220.5	75,308
1980	622	212,413	402.39	137,416	219.6	74,997	236.4	80,724	166.0	56,692
1981	936.4	319,781	643.29	219,684	293.1	100,097	417.4	142,556	225.8	77,128
1982	596.1	203,568	382.43	130,600	213.7	72,968	217.8	74,363	164.7	56,237
1983	587.5	200,631	364.45	124,460	223.1	76,172	207.7	70,933	156.7	53,527
1984	459.4	156,885	309.41	105,664	150.0	51,222	186.7	63,743	122.8	41,920
1985	559.9	191,206	387.27	132,253	172.6	58,953	229.9	78,517	157.4	53,736
1986	849.4	290,070	589.63	201,359	259.8	88,711	378.9	129,400	210.7	71,959
1987	640.1	218,594	393.29	134,309	246.8	84,286	231.9	79,186	161.4	55,123
1988	643.8	219,858	399.91	136,569	243.9	83,288	232.7	79,451	167.3	57,118
1989	523.2	178,673	322.82	110,243	200.4	68,430	183.8	62,778	139.0	47,465
1990	727.8	248,544	466.26	159,228	261.5	89,316	277.7	94,826	188.6	64,402
1991	556	189,874	340.77	116,373	215.2	73,501	189.5	64,712	151.3	51,661
1992	732.8	250,251	481.05	164,279	251.8	85,973	289.3	98,785	191.8	65,494
1993	721.3	246,324	446.40	152,446	274.9	93,878	252.5	86,242	193.9	66,203
1994	540.2	184,478	348.80	119,115	191.4	65,363	208.5	71,196	140.3	47,919
1995	538.5	183,898	409.85	139,964	128.7	43,934	289.2	98,748	120.7	41,215
1996	512.2	174,916	320.53	109,461	191.7	65,455	186.1	63,558	134.4	45,903
1997	433.2	147,938	274.18	93,632	159.0	54,305	151.9	51,875	122.3	41,757
1998	440.3	150,362	267.12	91,221	173.2	59,141	151.9	51,872	115.2	39,350
1999	424.4	144,933	273.94	93,551	150.5	51,382	161.8	55,253	112.1	38,297
2000	535.9	183,010	333.24	113,801	202.7	69,208	199.3	68,073	133.9	45,729
2002	551.5	188,337	397.70	135,815	153.8	52,523	261.6	89,324	136.1	46,490
2003	554.6	189,396	366.05	125,006	188.6	64,390	221.1	75,498	145.0	49,508
Minimum	386.2	131,887	218	74283	118.4	40,423	116.4	39,738	95.4	32,563
Maximum	936.4	319,781	643	219684	293.1	100,097	417.4	142,556	225.8	77,128
Average	595.8	203,451	387	132243	208.5	71,209	232.2	79,285	155.1	52,957
Percentage	100.0%	100.0%	65.0%	65.0%	35.0%	35.0%	39.0%	39.0%	26.0%	26.0%

Table B4- LID Infiltration Summary

LID	Area (ha)	Average Annual Infiltration Volume (m^3/Yr)	Average Annual Infiltration Volume (mm/Yr)
W1	8.92	7,436	83
W2	10.75	8,356	78
W3	6.3	3,925	62
W4	8.18	5,431	66
Total/Average	**34.15**	**25,149**	**72**

J.F. Sabourin and Associates Inc.
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jfsa.com

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

March 08, 2021 Project Number: 1474

David Schaeffer Engineering Ltd
120 Iber Road, Unit 103
Ottawa, Ontario
K2S 1E9

Attention: **Steve Pichette, P.Eng.**

Subject: **Review of Quantity Control Requirement for Jock River-Reach One**

Introduction

Phase 2 of the Barrhaven Conservancy Development (aka Conservancy East) is located in Barrhaven, Ontario, north of the Jock River, south of the Fraser Clarke Creek and east of the Foster Creek. The proposed development is approximately 59.26 ha that will primarily comprise of single and townhouse residential lots. As a part of the City of Ottawa's review of the proposed development draft plan of Phase 2 of the Barrhaven Conservancy Development, submitted in December 2020, it is proposed that flood quantity control measures will not need to be implemented as a part of this development. This assumption is based on the work completed by Stantec in June 2007 in the "Jock River Reach One Subwatershed Study" which concluded that for future developments within Reach 1 of the Jock River: "No quantity control storage is required for flood control purposes as the hydrograph from the subwatershed will peak before the upstream peak in the Jock River" and that "No erosion control storage is required to maintain the predevelopment in-stream erosion condition". Although this study did not consider the future development of the Barrhaven Conservancy Lands, and as such the modelling completed by Stantec has been updated by JFSA to reflect these changes. The following memo outlines data sources, assessed scenarios, assumptions, and conclusions of this independent Jock River Reach One study.

It is noted that RVCA is currently engaging in a formal update/review of the Jock River Reach One Subwatershed Study, with the findings of this study having the potential to affect the above-noted design criteria. While that study is underway J.F. Sabourin and Associates Inc. (JFSA) has completed an independent Jock River - Reach One study to re-assess/confirm that the assumptions presented in the original 2007 study by Stantec are still valid, as any changes to this conclusion could greatly impact the current BCDC Phase 2 development plan.

Background Data

The following outlines all the model and data sources used in this analysis:

- *"Jock River Floodplain Mapping Report"*, (2005 - PSR Group Ltd. & JFSA)
- *"Jock River Reach One Subwatershed Study Final Report",* (2007 – Stantec)
- *"Corrigan Stormwater Management Facility Stormwater Management Report and Design Brief"*, (2010 - IBI Group)
- *"Citi Gate, Highway 416 Employment Lands, Servicing Study and Stormwater Management Report (O'Keefe SWM)",* (2012 – Novatech)
- *"Foster Stormwater Management Facility, Environmental Study Report",* (2013 - CH2MHill)
- *"Todd Pond Model Keeper Analysis (Re-Assessment of Existing System Capacity)"*, (2015 – JFSA)

- *"CitiGate 416 Corporate Campus Detailed Servicing and Stormwater Management Report (Phase 1)"*, (2015 – Novatech)
- *"Kennedy-Burnett Stormwater Management Facility Retrofit, Detailed Design Report"*, (2020 – Novatech)
- *"Half Moon Bay South / Addendum to April 2015 Todd Pond Model Keeper Analysis, Re-Assessment of Existing System Capacity Report" (2020 - JFSA).*

Model Development/Scenarios

The following section outlines the various hydrologic model scenarios developed as a part of this work, with a brief description of the data sources used for each scenario and how they have been incorporated into the existing Jock River subwatershed hydrologic model.

Model 1 - Jock River Floodplain Model – JFSA, 2005

This hydrologic model was developed as a part of the floodplain mapping study of the Jock River completed in 2005. The hydrologic model of the Jock River was developed by JFSA using SWMHYMO, with independent models developed to simulate both summer and spring events. Both models were calibrated to field measured flows, recorded at the Water Survey Canada Flow Gauge at Moodie Drive. These models function as the basis for which all future models (both by JFSA and others) have been built on. Refer to Figure 1 (JFSA, 2005) for an overview of the subcatchments for reach one in this model, with full SWMHYMO input and summary files provided in Attachment A.

Model 2 – Jock River Reach One Model – Stantec, 2007

The hydrologic analysis completed by Stantec in 2007 built upon the JFSA 2005 floodplain mapping modelling. As a part of the Stantec work, the lower reach of the Jock River (3,176 ha) which was represented as a single subcatchment in the 2005 study was subdivided into thirteen (13) subcatchments to better delineate the drainage areas to the various tributaries (O'Keefe, Fraser, Foster, Todd, Corrigan and Clarke) and to also provide a better representation of the existing development areas (Kennedy Burnett, Chapman Mills, Jockvale and Hearts Desire). The remaining natural/undeveloped areas within the Jock River corridor were subdivided into three smaller (3) sub-catchments. Refer to Figure 2 (Stantec, 2007) for an overview of the subcatchments for reach one in this model, with full SWMHYMO input and summary files provided in Attachment B.

As mentioned above from this study, it was concluded that developments located in the lower reaches of the Jock River do not require any quantity control storage for flood control purposes as the hydrograph from the subwatershed will peak before the upstream peak in the Jock River and that no erosion control storage is required to maintain the pre-development in-stream erosion conditions.

Model 3 – Jock River Reach One Model Update – JFSA, 2021

As a part of the study outlined in this report, the 2007 Stantec SWMHYMO model of the Jock River was updated to reflect (as best as possible with the available information) proposed, approved and potential future developments, since the 2007 study.

At the time of the 2007 study, it was assumed that the floodplain of reach one of the Jock River (from Highway 416 to Greenbank Road) would not be filled and developed. Furthermore, the assumptions that were made in 2007 for the total imperviousness of future developments are not reflective of the actual constructed conditions observed in 2021; for example, the total impervious area for the Todd drainage area was assumed to be 43% in the 2007 study, while based on latest aerial photography it appears that the imperviousness for this area is closer to 58.5%). Additionally, SWM quantity controls were implemented in some tributaries within Reach One (e.g., O'Keefe, Foster and Kennedy-Burnett) to respect the hydraulic capacity of the local watercourses or other existing hydraulic constraints.

As outlined in the Background Data section of this memo, data from various reports and studies were collected and used to update Stantec's 2007 model, to best reflect existing conditions and known approved and planned development projects. As such, the thirteen (13) subcatchments of the 2007 Stantec model have been further discretized into one hundred ten (110) subcatchments, with numerous additional major system storage, SWM Ponds, and channel routing commands added. This updated existing condition model is reflective of current 2021 conditions, which assumes that the lower Jock River floodplain is undeveloped. It should also be noted that only subcatchments downstream of Highway 416 have been updated as a part of this analysis. Updates to other catchments of the Jock River further upstream, such as the Monahan Drain, Hobbs Creek, King Creek, and development areas in Richmond, where additional new information may be available, have not been included in the model updates at this time. Refer to Figure 3 for an overview of the subcatchments for reach one in this model, with full SWMHYMO input and summary files been provided in Attachment C, detailed schematics of the subcatchments updated as a part of this study have been provided in Attachment F.

Note that Novatech's PCSWMM model of the Kennedy-Burnett area was used to create a detailed SWMHYMO model of the same area. In creating this SWMHYMO model it was found that the 100-year peak outflows from the Kennedy Burnett facility were 1.4 times higher than that reported in the Novatech PCSWMM model. While it is expected that different modelling software will produce slightly different results, this difference is significant and should be investigated further; although it is unlikely that this difference is expected to change the fundamental conclusions of this analysis.

Model 4A & 4B – Jock River Reach One Future Conditions (without and with quantity SWM controls) – JFSA, 2021

Two additional models (4A and 4B) were created (which built on model 3) to evaluate the impacts of developing portions of the lower Jock River floodplain (from Highway 416 to Greenbank Road). These lands make up approximately 156 ha and would include BCDC and other properties on the south side of the Jock River. Model 4A assumes that these lands would be developed without any SWM quantity controls and Model 4B assumes that the lands would be developed with SWM Post to Pre-development quantity controls. Refer to Figure 4 for an overview of the subcatchments for reach one in these models, with full SWMHYMO input and summary files for scenarios 4A and 4B provided in Attachment D & E, respectively.

Results

All hydrologic models were run using a 24 hours SCS storm for the 2-to-100-year events. Note that this analysis focuses on this particular rainfall event as for developed areas the summer rainfall events are more critical than the spring rainfall plus snowmelt conditions. Hence, only the summer peak flows have been summarized and compared for the various scenarios below, as the flow contributions from the developments in the lower Jock River under the spring rainfall + snowmelt event are negligible compared to the flows upstream from the greater Jock River. It is further noted that the same design storms were used in all models.

Peak flows at key locations along Reach One of the Jock River have been extracted from the various hydrologic models and provided in the following section. As a part of this analysis, 5 key locations on the Jock River have been selected to compare the simulated peak flows and are as follows: Highway 416, Borrisokane Road, Greenbank Road, Jockvale Road and the Jock River's confluence with the Rideau River. Note that for the older models (JFSA 2005 & Stantec 2007) results have only been provided at some locations, as these original models were not discretized to this higher level of detail. Additionally, the Stantec 2007 model did not assess flows on the Jock River for the 10- and 50-year events at any locations.

Table 1: Comparison of Summer Peak Flows (m^3/s) at Highway 416 (52483.00 ha)

Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	45.676	66.292	82.076	104.643	122.469	141.415
Model 2: Stantec 2007 Reach One Analysis	45.789	66.413	n/a	104.834	n/a	141.853
Model 3: Updated Model 2 to current/ approved conditions	46.294	67.222	83.235	106.109	124.249	143.580
Model 4A: Model 3 with BCDC & others w/o SWM	46.294	67.222	83.235	106.109	124.249	143.580
Model 4B: Model 3 with BCDC & others with SWM	46.294	67.222	83.235	106.109	124.249	143.580

From Table 1 above it is seen that the peak flows on the Jock River at Highway 416 for Models 3, 4A and 4B are higher than in Models 1 and 2. This is because the computational time step in the updated models was reduced from 5 - 10 minutes to 1 minute. This change was necessary to provide stable results in the various models, especially with the additional ROUTE CHANNEL commands that have been added to the updated models. There were no other changes made to the models upstream of Highway 416.

Table 2: Comparison of Summer Peak Flows (m^3/s) at Borrisokane Road (53577.82 ha)

Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	n/a	n/a	n/a	n/a	n/a	n/a
Model 2: Stantec 2007 Reach One Analysis	46.817	68.124	n/a	107.402	n/a	144.892
Model 3: Updated Model 2 to current/ approved conditions	47.379	69.117	85.613	108.988	127.740	147.849
Model 4A: Model 3 with BCDC & others w/o SWM	47.426	68.998	85.561	109.064	127.650	147.535
Model 4B: Model 3 with BCDC & others with SWM	47.599	69.319	85.870	109.449	128.055	147.939

From Table 2 it is seen that the peak flows on the Jock River at Borrisokane are generally lower in model 4A (developed without SWM controls) than under existing conditions (Model 3). The inclusion of SWM controls for these future developments results in the peak flows increasing from existing conditions for all return periods at this location. Note that the increase in flows at this location between the Stantec model (model 2) and the JFSA existing conditions model (model 3) again is due to the greater discretization of subcatchments at Borrisokane Road in the JFSA model. For example, in the Stantec model, the subcatchment that represents the currently undeveloped lands along the Jock River is represented as a single subcatchment (S-1). Where the JFSA updated model represents these lands as 14 individual subcatchments, all discharging to their respective locations within the Jock River (e.g. O'Keefe Creek, Foster Creek & Borrisokane Road).

Table 3: Comparison of Summer Peak Flows (m^3/s) at Greenbank Road (54717.80 ha)

Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	n/a	n/a	n/a	n/a	n/a	n/a
Model 2: Stantec 2007 Reach One Analysis	49.195	71.220	n/a	111.172	n/a	149.236
Model 3: Updated Model 2 to current/ approved conditions	49.055	70.826	86.895	110.282	128.564	147.488
Model 4A: Model 3 with BCDC & others w/o SWM	48.599	69.773	85.389	103.842	126.050	144.531
Model 4B: Model 3 with BCDC & others with SWM	48.982	70.171	85.928	103.651	126.537	144.894

From Table 3 it is seen that peak flows on the Jock River at Greenbank Road are the lowest without SWM controls in place (Model 4A). With SWM controls in place, the peak flows are lower than the existing conditions, but not as low as when SWM controls are not implemented. Note that the JFSA existing conditions model (model 3) is presenting peak flows lower than the Stantec model (model 2) at this location, again this is due to the greater discretization in the JFSA model as discussed above.

Table 4: Comparison of Summer Peak Flows (m^3/s) at Jockvale Road (55476.26 ha)

Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	n/a	n/a	n/a	n/a	n/a	n/a
Model 2: Stantec 2007 Reach One Analysis	49.870	72.143	n/a	112.074	n/a	150.033
Model 3: Updated Model 2 to current/ approved conditions	49.619	72.224	88.294	111.989	130.865	149.819
Model 4A: Model 3 with BCDC & others w/o SWM	49.482	71.017	86.165	105.082	128.174	146.840
Model 4B: Model 3 with BCDC & others with SWM	49.606	71.408	86.690	104.765	128.229	147.027

From Table 4 is seen that the peak flows at Jockvale Road are generally at their lowest without SWM controls in place, and that either implementing or not implementing SWM controls for future developments results in peak flows at this location being less than existing conditions.

Table 5: Comparison of Summer Peak Flows (m^3/s) at Outlet of Jock River (55579.20 ha)

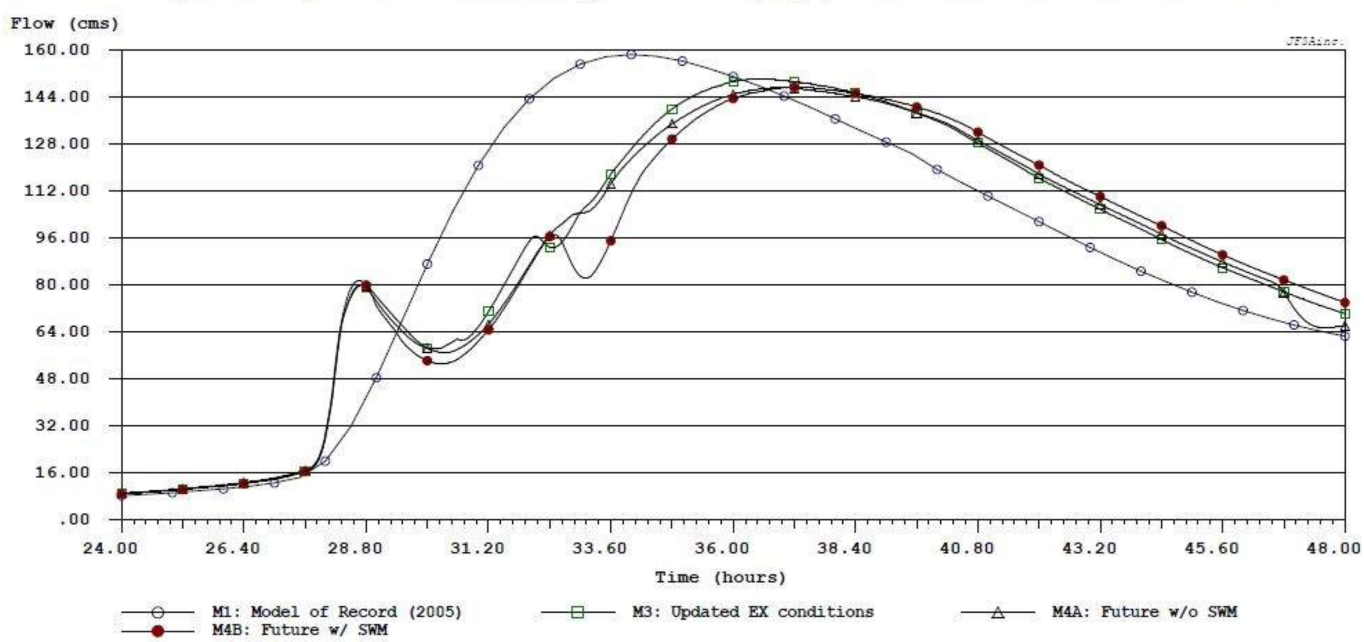
Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	49.16	72.08	89.96	115.84	136.46	158.42
Model 2: Stantec 2007 Reach One Analysis	50.78	73.65	n/a	113.97	n/a	157.69
Model 3: Updated Model 2 to current/ approved conditions	49.72	72.36	88.45	112.2	131.12	150.12
Model 4A: Model 3 with BCDC & others w/o SWM	49.58	71.17	86.35	105.27	128.42	147.10
Model 4B: Model 3 with BCDC & others with SWM	49.70	71.54	86.85	104.96	128.45	147.28

From Table 5 it is seen that the peak flows on the Jock River at the confluence with the Rideau River are generally at their lowest without SWM controls in place, and that either implementing or not implementing SWM controls for future developments results in peak flows at this location to be less than existing conditions.

Discussion

Although not initially obvious, the reason that future urban developments within Reach One of the Jock River are decreasing peak flows on the Jock River is because developing land not only affects the peak of the hydrograph but also the overall shape. Figure A below provides a comparison of the simulated hydrographs at the Jock River's confluence with the Rideau River from the various model scenarios. During any rainfall event, the runoff from the existing and future developments within Reach One will have already peaked and decayed before the peak flows arrive at this location from the upstream drainage area. For the 100-Year SCS storm, the peak from the development in Reach One can be seen in the figure below at around 28 hours, while the peak flow on the Jock River from the upstream drainage areas occurs at around 36-37 hours, this is approximately a 9-hour difference in timing. As such, implementing SWM measures for developments in the lower portions of the Jock River will decrease peak flows from the development, but would also prolong the period of time during which they discharge into the Jock River, thus coinciding with flows from the greater Jock River, ultimately resulting in potential increases in peak flows on the Jock River. This is seen in the figure below with the future condition with SWM controls (Model 4B - Red Circles) having a higher flow in the tail than future conditions without SWM controls (Model 4A – Black Triangles). Note that the difference between Model 1 and all other scenarios is simply due to further discretization of subcatchments within Reach One.

Figure A: Comparison of simulated 100 yr Jock River hyrographs at the confluence with the Rideau River



Hydrograph Statistics:

Legend	Filename & Comment	Time Step (min)	Drainage Area (ha)	Peak Flow (cms)	Time to Peak (hrs)	Runoff Volume (mm)	Runoff Volume (cu.m)	Duration of flow (hrs)	Average flow (cms)
○	N1.0100 : M1: Model of Record (2005)	30.00	55659.00	158.420	34.000	14.52	8.082E+06	24.000	93.538
□	SN_N1.0100 : M3: Updated EX conditions	1.00	55579.20	150.120	36.533	14.24	7.914E+06	24.000	91.603
△	SN_N1.0100 : M4A: Future w/o SWM	1.00	55579.20	147.102	36.917	14.12	7.848E+06	24.000	90.831
●	SN_N1.0100 : M4B: Future w/ SWM	1.00	55579.19	147.276	37.250	14.03	7.798E+06	24.000	90.252

Conclusion

The hydrologic model developed as a part of the Jock River Reach One Subwatershed Study (Stantec 2007) has been updated to provide additional refinements in the lower reaches of the Jock River (downstream of Highway 416) and assumes the development of lands that were previously not considered in the 2007 analysis (e.g. Barrhaven Conservancy). Future development condition models were created with and without SWM controls assumed, and the peak flows extracted from these models at key locations along the lower Jock River. From this analysis, it was found that with these additional developments in the lower Jock River peak flows are generally less than existing conditions without SWM controls in place. Implementing SWM controls for these developments has also been found to generally decrease peak flows on the Jock River, but not at all locations and not to the same degree as without SWM controls. Ultimately these findings are consistent with the fundamental conclusions drawn in Stantec's 2007 Jock River Reach One study, which initially determined that for future developments within Reach One of the Jock River "No quantity control storage is required for flood control purposes as the hydrograph from the subwatershed will peak before the upstream peak in the Jock River" and that "No erosion control storage is required to maintain the pre-development in-stream erosion condition". Based on the results of the updated analysis outlined in this memo, it can confirm that the fundamental conclusions drawn in Stantec's 2007 for developments in reach one of the Jock River remain valid.

Yours truly,
J.F Sabourin and Associates Inc.

Jonathon Burnett, P.Eng
Water Resources Engineer

LICENSED PROFESSIONAL ENGINEER
J. J. BURNETT
100227734
PROVINCE OF ONTARIO

cc: J.F Sabourin, M.Eng, P.Eng
Director of Water Resources Projects

Figures

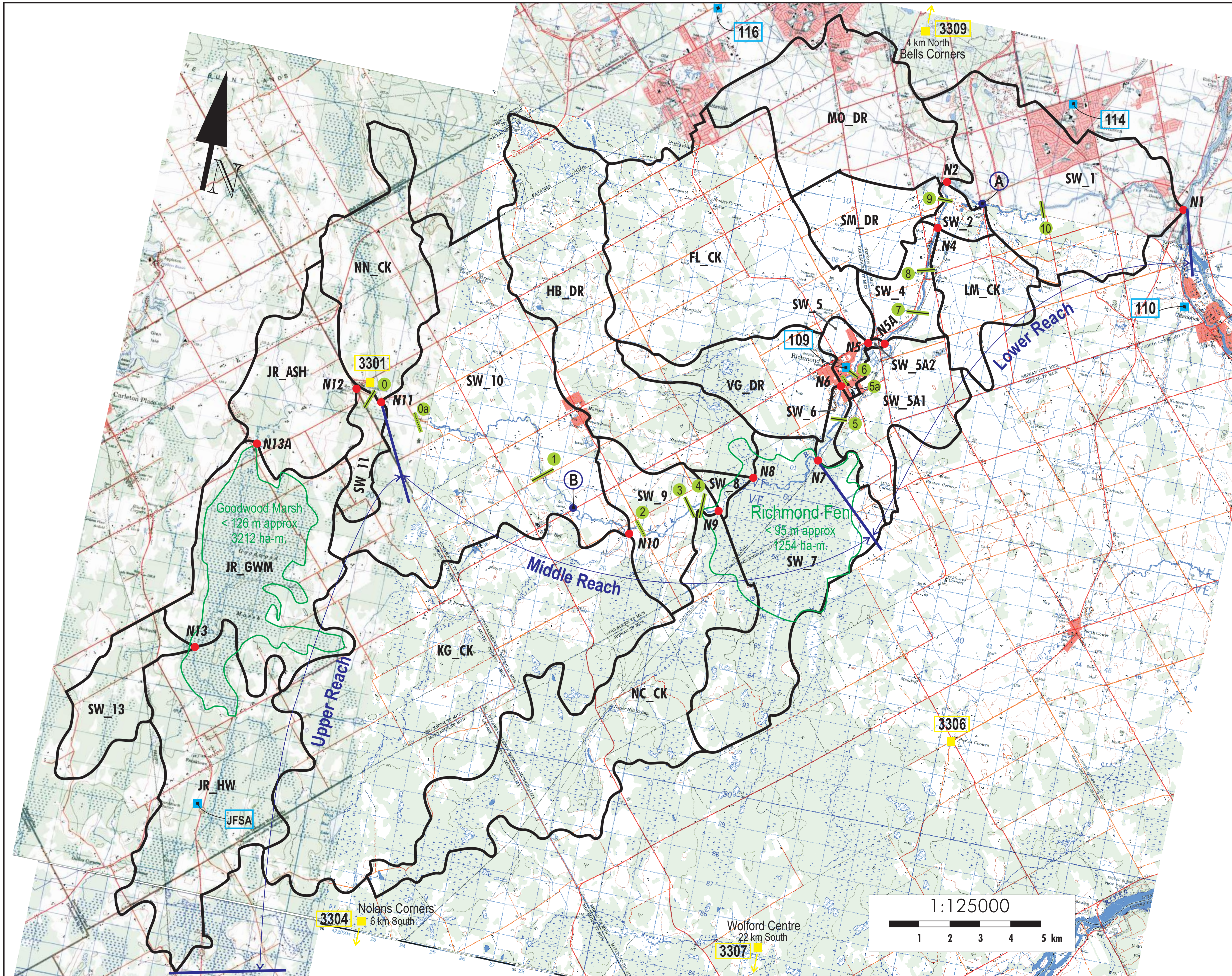
Figure 1: Model 1 – Jock River Floodplain Model – JFSA, 2005
Figure 2: Model 2 – Jock River Reach One Model – Stantec, 2007
Figure 3: Model 3 – Jock River Reach One Model Update - JFSA, 2021
Figure 4: Model 4A & 4B – Jock River Reach One Future Conditions - JFSA, 2021

Tables

Table 1: Summer Peak Flows at Highway 416
Table 2: Summer Peak Flows at Borrisokane Road.
Table 3: Summer Peak Flows at Greenbank Road
Table 4: Summer Peak Flows at Jockvale Road
Table 5: Summer Peak Flows at Outlet of Jock River

Attachments

Attachment A: Model 1 - SWMHYMO Input & Summary files
Attachment B: Model 2 - SWMHYMO Input & Summary files
Attachment C: Model 3 - SWMHYMO Input & Summary files
Attachment D: Model 4A - SWMHYMO Input & Summary files
Attachment E: Model 4B - SWMHYMO Input & Summary files
Attachment F: Updated Subcatchment Schematics & Tables



Legend:

- Watershed
- Bogs (Reservoir)
- Nodes
- Flow gauges
- Rain gauges
- Snow course stations
- River Cross-Sections (based on topo. maps)
- River Cross-Sections adjusted with field data
- Reaches limits

Flow gauges ID

- A 02LA007- Jock River near Richmond
- B Jock River at Franktown Rd

Rain gauges ID

- 109 Richmond
- 110 Manotick
- 114 Barrhaven
- 116 Maple Grove
- JFSA JFSA Inc, Temporary Rain Gauge 2003

Snow course stations ID

- 3301 Ashton
- 3304 Nolans Corners
- 3306 Pierces Corners
- 3307 Bells Corners
- 3309 Wolford Centre

Client:

RIDEAU VALLEY CONSERVATION AUTHORITY

Project:

Jock River Flood Plain Mapping Study

Title:

Watershed Delineation

J.F. Sabourin & Associates Inc.
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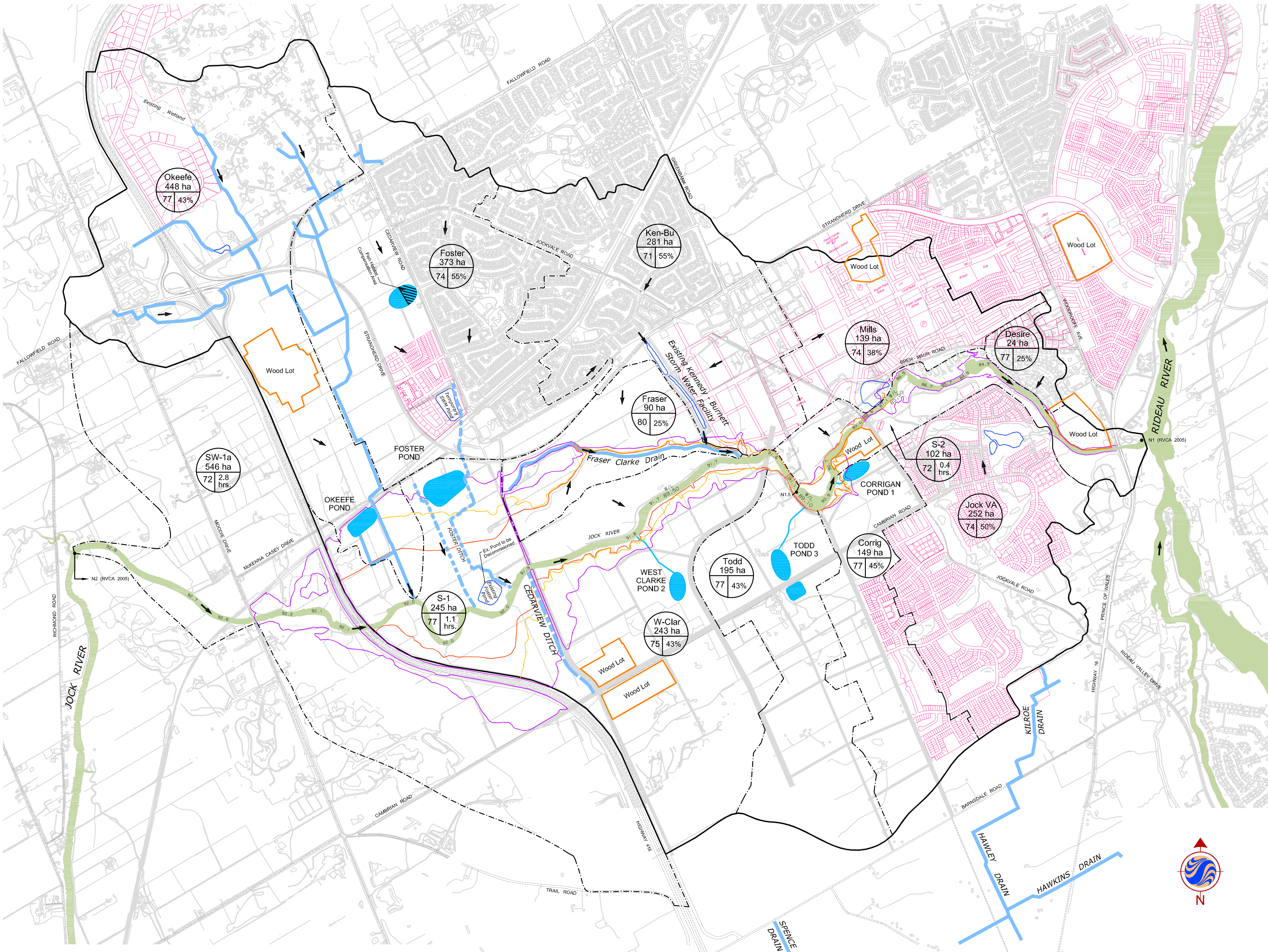
Figure 1

Ref. File: Base Map Jock River B.cdr



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Legend

- Existing SWM Facility
- Proposed Stormwater Facility
- Proposed Pond Outlet
- Jock River Tributary (Municipal Drain)
- Jock River Tributary (Non-Municipal Drain)
- Watershed Boundary
- 91.7 Regulatory Flood Level
- W/L 89.50 Normal Water Level
- Woodlot Limits
- Sub-drainage Area Limit
- Desire 24 ha 77 50% hrs.: Sub-drainage Area Name; Sub-drainage Area Size; % Impervious or Time to Peak (hours); SCS Curve Number
- Application Plans Under Review
- 10 Year Flood Line
- 25 Year Flood Line
- 100 Year Flood Line

1	FINAL REPORT	BCB	N.G.	JUNE 2007
Revision		By	Appd.	YY.MM.DD
File Name:		Dwn.	Chkd. Dsgn.	YY.MM.DD

Seal

Client/Project

JOCK RIVER REACH ONE
SUB-WATERSHED STUDY
Ottawa ON Canada

Title

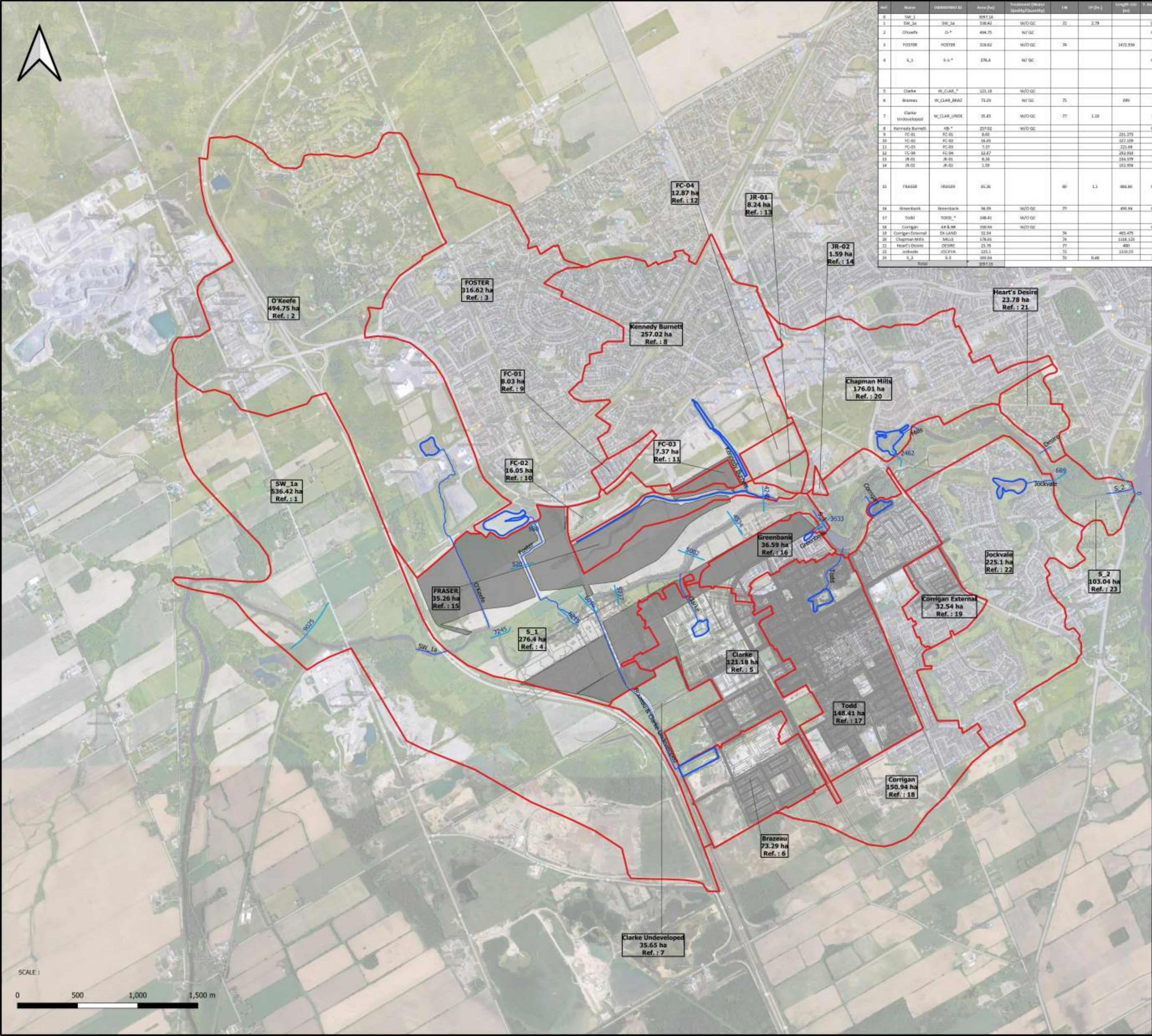
PROPOSED CONDITIONS
HYDROLOGIC MODEL
DRAINAGE BOUNDARIES

Project No. 60400414 Scale 1:10,000 0 100 300 500m

Drawing No. Sheet 1 of 1 Revision 1

Figure 2

Ref.	Name	[illegible] ID	Area (ha)	Treatment (Water Quality/Quantity)	CN	TP (hr.)	Length (m)	[illegible]	XIMP	Type	Major System to	Minor System to	Figure	Table	Schematic
0	SW_1		3057.14												
1	SW_1a	SW_1a	536.42	W/O QC	72	2.79		[2.79]		NASHYD	Jock River at Station 7245				
2	O'Keefe	O-*	494.75	W/ QC				0.575		STANDHYD	Jock River at Station 8235		Figure F1 - O'Keefe Sub-catchments	Table F1 - O'Keefe Sub-catchments	Schematic F1 - O'Keefe Sub-catchments
3	FOSTER	FOSTER	316.62	W/O QC	74		1472.959	0.35	0.55	STANDHYD	Jock River at Station 8056		Figure F2 - Foster Sub-catchment	Table F2 - Foster Sub-catchment	
4	S_1	S-1-*	276.4	W/ QC				0.848		STANDHYD	Jock River at Station 5802		Figure 4A - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments	
													Figure 4B - S-1 & Fraser Sub-catchments	Table 4B - S-1 & Fraser Sub-catchments	
5	Clarke	W_CLAR_*	121.18	W/O QC				0.61		STANDHYD	Jock River at Station 5082		Figure F3 - Clarke & Brazeau Sub-catchments	Table F3-1 - Clarke Sub-catchments	
6	Brazeau	W_CLAR_BRAZ	73.29	W/ QC	75		689	0.65	0.6	STANDHYD	Jock River at Station 8056				
7	Clarke Undeveloped	W_CLAR_UNDE	35.65	W/O QC	77	1.18		[1.1]		NASHYD	Jock River at Station 5082			Figure F3-2 - Brazeau Sub-catchment	
8	Kennedy Burnett	KB-*	257.02	W/O QC				0.357		STANDHYD	Jock River at Station 3633		Figure F4 - Kennedy Burnett Sub-catchments	Table F4 - Kennedy Burnett Sub-catchments	
9	FC-01	FC-01	8.03				221.373	0.47	0.47	STANDHYD	Jock River at Station 3655				
10	FC-02	FC-02	16.05				327.109	0.93	0.93	STANDHYD	Jock River at Station 3633				
11	FC-03	FC-03	7.37				221.68	0.84	0.84	STANDHYD	Jock River at Station 3633				
12	FC-04	FC-04	12.87				292.918	0.84	0.84	STANDHYD	Jock River at Station 3655				
13	JR-01	JR-01	8.24				214.579	0.84	0.84	STANDHYD	Jock River at Station 3633				
14	JR-02	JR-02	1.59				102.958	0.84	0.84	STANDHYD	Jock River at Station 3633				
15	FRASER	FRASER	35.26		80	1.1	884.84	0.565	0.565	STANDHYD	Jock River at Station 3633		Figure 4A - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments	
													Figure 4B - S-1 & Fraser Sub-catchments	Table 4B - S-1 & Fraser Sub-catchments	
16	Greenbank	Greenbank	36.59	W/O QC	77		491.96	0.882	0.609	STANDHYD	Jock River at Station 2462				
17	Todd	TODD_*	148.41	W/O QC				0.55		STANDHYD	Jock River at Station 2462		Figure F5 - Todd Sub-catchments	Table F5 - Todd Sub-catchments	
18	Corrigan	AR & BR	150.94	W/O QC				0.541		STANDHYD	Jock River at Station 2462		Figure F6 - Corrigan Sub-catchments	Table F6 - Corrigan Sub-catchments	
19	Corrigan External	EX-LAND	32.54		74		465.475	0.5	0.5	STANDHYD	Jock River at Station 2462				
20	Chapman Mills	MILLS	176.01		74		1118.121	0.38	0.38	STANDHYD	Jock River at Station 689				
21	Heart's Desire	DESIRE	23.78		77		400	0.25	0.25	STANDHYD	Jock River at Station 0				
22	Jockvale	JOCKVA	225.1		72		1310.55	0.5	0.5	STANDHYD	Jock River at Station 0				
24	S_2	S-2	103.04		72	0.49		[0.41]		NASHYD	Rideau River				
Total			3057.15												



Legend
Channel Cross Section
Sub-catchments
SW_1
SWMF Drains
SWMF ponds

File name:
Figure 3 - Overall Jock River Lower Reach one Sub-catchments.pdf

XS 4534 — Cross Section at station 4534

SW_1a → Area ID
536.42 ha → Area (ha)
Ref. 1 → Reference Number

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DSEL
david schaeffer engineering ltd

PROJECT :
BCDC - Quantity Control Study

TITLE :
Figure 3 - Overall Jock River Lower Reach one Sub-catchments
Table 3 - Overall Jock River Lower Reach one Sub-catchments

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Legend

Channel Cross Sections

S-1 Sub-catchments and Fraser Sub-catchments

- S-1-A
- S-1-B
- S-1-D1
- S-1-D2
- S-1-D3
- S-1-D4
- S-1-D5
- S-1-D6
- S-1-D7
- S-1-D8
- S-1-FO-D1
- S-1-FO-D2
- S-1-FO-F-D
- S-1-Okeefe
- FRASER-DRN
- FRASER-D

Google Hybrid

File name:

20210304_S-1_Fraser_Schematic-Model4A.pdf

XS 3633 Cross Section at station 3633

S-1-A → Area ID
90.84 ha → Area (ha)
Ref. 1 → Reference Number

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DSEL
david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

S-1 Sub-catchment and Fraser Clarke
Sub-catchment Schematic

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Legend

Channel Cross Sections

S-1 Sub-catchments and Fraser Sub-catchments

- S-1-A
- S-1-B
- S-1-D1
- S-1-D2
- S-1-D3
- S-1-D4
- S-1-D5
- S-1-D6
- S-1-D7
- S-1-D8
- S-1-FO-D1
- S-1-FO-D2
- S-1-FO-F-D
- S-1-Okeefe
- FRASER-DRN
- FRASER-D

Google Hybrid

File name:

20210304_S-1_Fraser_Schematic-Model4B.pdf

XS 3633 — Cross Section at station 3633

S-1-A → Area ID
90.84 ha → Area (ha)
Ref. 1 → Reference Number

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DSEL
david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

S-1 Sub-catchment and Fraser Clarke Sub-catchment Schematic

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

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Attachment A

Model 1 – Jock River Floodplain Model

JFSA, 2005

SWMHYMO Input & Summary files

```
20    Metric units / ID numbers OFF
*#*****************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#*****************************************************************************
*#  Project Name: [Jock River]    Project Number: [411-02]
*#  Date          : 06-06-2003
*#  Modeller      : [JoF]
*#  Company       : JFSAinc.
*#  License #     :  2549237
*#*****************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ----------------------------------------------------------------------------
*
*START                TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                      ["XAVG0315.STM"] average storm data a 15 minute time step
*                      The above rainf file is an average of the JFSA gauge data
*                      with the City of Ottawa rainfall data collected during
*                      the same period.
*%  2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[2]
*%                     ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
READ STORM           STORM_FILENAME=["storm.001"]
*%-----------------|-----------------------------------------------------------|
MODIFY STORM         ICASEms=[1],  NSHIFT=[96],
                     RedFACT=[1],
*%-----------------|-----------------------------------------------------------|
COMPUTE API          APII=[50], APIK=[.85]/day
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["JR_HW"], DT=[30]min, AREA=[3680](ha),
                     DWF=[0](cms),  CN/C=[64], IA=[2.5](mm),
                     N=[3.0], TP=[7.13]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_13"], DT=[30]min, AREA=[971](ha),
                     DWF=[0](cms),  CN/C=[61], IA=[2.5](mm),
                     N=[3.0], TP=[3.76]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
```

```
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["JR_GWM"], DT=[30]min, AREA=[3074](ha),
                     DWF=[0](cms),  CN/C=[55], IA=[2.5](mm),
                     N=[3], TP=[11.33]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["JR_ASH"], DT=[30]min, AREA=[1781](ha),
                     DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                     N=[3.0], TP=[3.91]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_11"], DT=[30]min, AREA=[500](ha),
                     DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                     N=[3.0], TP=[1.24]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["NN_CK"], DT=[30]min, AREA=[1917](ha),
                     DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                     N=[3.0], TP=[5.29]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_10"], DT=[30]min, AREA=[5666](ha),
```

```
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["KG_CK"], DT=[30]min, AREA=[8376](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[11.66]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_9"], DT=[30]min, AREA=[1132](ha),
                    DWF=[0](cms),  CN/C=[70], IA=[2.5](mm),
                    N=[3.0], TP=[2.51]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NC_CK"], DT=[30]min, AREA=[4464](ha),
                    DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                    N=[3.0], TP=[11.32]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_8"], DT=[30]min, AREA=[131](ha),
                    DWF=[0](cms),  CN/C=[63], IA=[2.5](mm),
                    N=[3.0], TP=[0.90]hrs,
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["HB_DR"], DT=[30]min, AREA=[3854](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[8.42]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_7"], DT=[30]min, AREA=[3197](ha),
                    DWF=[0](cms),  CN/C=[57], IA=[2.5](mm),
                    N=[3.0], TP=[6.65]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_6"], DT=[30]min, AREA=[165](ha),
                    DWF=[0](cms),  CN/C=[67], IA=[2.5](mm),
                    N=[3.0], TP=[4.18]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["VG_DR"], DT=[30]min, AREA=[1332](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[5.95]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
```

```
                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
                       BaseFlowOption=[1] ,
                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                       VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD      NHYD=["SW_5"], DT=[30]min, AREA=[224](ha),
                       DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                       N=[3.0], TP=[0.75]hrs,
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),
                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
                       BaseFlowOption=[1] ,
                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                       VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD      NHYD=["FL_CK"], DT=[30]min, AREA=[4945](ha),
                       DWF=[0](cms),  CN/C=[74], IA=[2.5](mm),
                       N=[3.0], TP=[4.45]hrs,
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),
                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
                       BaseFlowOption=[1] ,
                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                       VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD      NHYD=["SW_5A2"], DT=[30]min, AREA=[20](ha),
                       DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                       N=[3.0], TP=[0.62]hrs,
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),
                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
                       BaseFlowOption=[1] ,
                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                       VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD      NHYD=["SW_5A1"], DT=[30]min, AREA=[1412](ha),
                       DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
                       N=[3.0], TP=[8.00]hrs,
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),
                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
                       BaseFlowOption=[1] ,
                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                       VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD      NHYD=["SW_4"], DT=[30]min, AREA=[585](ha),
                       DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                       N=[3.0], TP=[1.75]hrs,
```

```
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["LM_CK"], DT=[30]min, AREA=[1021](ha),
                      DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                      N=[3.0], TP=[2.46]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["SW_2"], DT=[30]min, AREA=[177](ha),
                      DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                      N=[3.0], TP=[0.75]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["SM_DR"], DT=[30]min, AREA=[1122](ha),
                      DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                      N=[3.0], TP=[3.25]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["MO_DR"], DT=[30]min, AREA=[2737](ha),
                      DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                      N=[3.0], TP=[3.03]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["SW_1"], DT=[30]min, AREA=[3176](ha),
                      DWF=[0](cms),  CN/C=[78], IA=[2.5](mm),
                      N=[3.0], TP=[3.56]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
```

```
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# Routing hydrographs
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD               NHYDsum=["S_N13"], NHYDs to add=["JR_HW"+"SW_13"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL         NHYDout=["N13A"] ,NHYDin=["S_N13"],
                      RDT=[30](min),
                      CHLGTH=[9074](m),  CHSLOPE=[0.0220](%),
                                          FPSLOPE=[0.0220](%),
                      SECNUM=[1.0],       NSEG=[1]
                      ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                            [-40, 132.5]
                            [-30, 132]
                            [-25, 131.5]
                            [-13, 130]
                            [-8, 127.00]
                            [-7, 126.50]
                            [-6, 126]
                            [-5.5, 125.50]
                            [0, 123.75]
                            [4.5, 125.50]
                            [6, 126]
                            [7.5, 126.5]
                            [9, 127]
                            [10, 127.5]
                            [11.5, 128.0]
                            [15.5, 129.5]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD               NHYDsum=["SN13A"], NHYDs to add=["N13A"+"JR_GWM"]
*%-----------------|-----------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR       NHYDout=["RES_GM"] ,NHYDin=["SN13A"],
                      RDT=[30](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,   0.0 ]
                                      [1.991, 2.144    ]
                                      [2.693, 39.826   ]
                                      [3.509, 81.697   ]
                                      [4.578, 318.774  ]
                                      [5.647, 594.947  ]
                                      [7.109, 910.219  ]
                                      [8.616, 1264.589  ]
                                      [10.371, 1658.057  ]
                                      [12.402, 2090.622 ]
                                      [22.056, 3462.487 ]
                                      [   -1  ,   -1  ]  (max twenty pts)
                            NHYDovf=["      "] ,
*%-----------------|-----------------------------------------------------------|
*#
```

```
SAVE HYD             NHYD=["RES_GM"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                     HYD_FILENAME=["H_RESGM"]
                     HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|------------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL        NHYDout=["N12"] ,NHYDin=["RES_GM"] ,
                     RDT=[30](min),
                     CHLGTH=[5926](m),  CHSLOPE=[0.0759](%),
                                         FPSLOPE=[0.0759](%),
                     SECNUM=[1.0],       NSEG=[1]
                     ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                           [-40, 132.5]
                           [-30, 132]
                           [-25, 131.5]
                           [-13, 130]
                           [-8, 127.00]
                           [-7, 126.50]
                           [-6, 126]
                           [-5.5, 125.50]
                           [0, 123.75]
                           [4.5, 125.50]
                           [6, 126]
                           [7.5, 126.5]
                           [9, 127]
                           [10, 127.5]
                           [11.5, 128.00]
                           [15.5, 129.5]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD              NHYDsum=["S_N12"], NHYDs to add=["N12"+"JR_ASH"]
SAVE HYD             NHYD=["S_N12"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                     HYD_FILENAME=["H_SN12"]
                     HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL        NHYDout=["N11"] ,NHYDin=["S_N12"] ,
                     RDT=[30](min),
                     CHLGTH=[972](m),  CHSLOPE=[0.0514](%),
                                         FPSLOPE=[0.0514](%),
                     SECNUM=[1.0],       NSEG=[1]
                     ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                           [-40, 132.5]
                           [-30, 132]
                           [-25, 131.5]
                           [-13, 130]
                           [-8, 127.00]
                           [-7, 126.50]
                           [-6, 126]
                           [-5.5, 125.50]
                           [0, 123.75]
                           [4.5, 125.50]
                           [6, 126]
                           [7.5, 126.5]
                           [9, 127]
                           [10, 127.5]
                           [11.5, 128.00]
                           [15.5, 129.5]
```

```
*%-----------------|----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL        NHYDout=["Dum11"] ,NHYDin=["S_N12"] ,
                     RDT=[30](min),
                     CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                         FPSLOPE=[0.054](%),
                     SECNUM=[1.0],       NSEG=[1]
                     ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                           [-40, 132.5]
                           [-30, 132]
                           [-25, 131.5]
                           [-13, 130]
                           [-8, 127.00]
                           [-7, 126.50]
                           [-6, 126]
                           [-5.5, 125.50]
                           [0, 123.75]
                           [4.5, 125.50]
                           [6, 126]
                           [7.5, 126.5]
                           [9, 127]
                           [10, 127.5]
                           [11.5, 128.00]
                           [15.5, 129.5]
*%-----------------|----------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD              NHYDsum=["S_N11"], NHYDs to add=["Dum11"+"SW_11"+"NN_CK"]
*%-----------------|----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL        NHYDout=["N10"] ,NHYDin=["S_N11"] ,
                     RDT=[30](min),
                     CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                         FPSLOPE=[0.1568](%),
                     SECNUM=[1.0],       NSEG=[5]
                     ( SEGROUGH, SEGDIST (m))=
                      [0.04,-52.82
                       0.1,-6.47
                       -0.05,6.47
                       0.1,45.36
                       0.04,423.88] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                           [-226.24 ,112.50]
                           [-167.50 ,111.50]
                           [-106.81 ,111.00]
                           [-92.37 ,110.00]
                           [-52.82 ,109.00]
                           [-24.90, 109.00]
                           [-17.02, 108.50]
                           [-6.47, 108.00]
                           [6.47, 108.00]
                           [15.67, 108.50]
                           [18.95, 109.00]
                           [45.36, 109.50]
                           [120.79, 110.00]
                           [145.72, 111.00]
                           [181.56, 111.50]
                           [423.88, 112.50]
*%-----------------|----------------------------------------------------------|
```

```
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD             NHYDsum=["S_N10"], NHYDs to add=["N10"+"SW_10"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD            NHYD=["S_N10"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN10"]
                    HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|-----------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD             NHYDsum=["S_N10A"], NHYDs to add=["S_N10"+"KG_CK"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL       NHYDout=["N9"] ,NHYDin=["S_N10A"] ,
                    RDT=[30](min),
                    CHLGTH=[3982](m),  CHSLOPE=[0.0753](%),
                                        FPSLOPE=[0.0753](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-30.27
                       0.05,-18.42
                      -0.05,18.42
                      0.04,131.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-446.74, 106.00]
                          [-415.68, 105.50]
                          [-285.40, 105.00]
                          [-173.77, 104.50]
                          [-144.95, 104.00]
                          [-111.18, 103.50]
                          [-94.06, 103.00]
                          [-71.02, 102.50]
                          [-30.27, 102.00]
                          [-19.33, 100.00]
                          [-18.42, 99.50]
                          [18.42, 99.50]
                          [20.77, 100.00]
                          [27.93, 101.00]
                          [52.29, 101.00]
                          [68.80, 101.50]
                          [79.66, 103.00]
                          [91.50, 103.50]
                          [131.58, 104.00]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
*#
ADD HYD             NHYDsum=["S_N9"], NHYDs to add=["N9"+"SW_9"+"NC_CK"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL       NHYDout=["N8"] ,NHYDin=["S_N9"] ,
                    RDT=[30](min),
                    CHLGTH=[2269](m),  CHSLOPE=[0.0882](%),
                                        FPSLOPE=[0.0882](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-17.99
                      -0.045,17.31
                      0.1,456.58] NSEG times
```

```
                     ( DISTANCE (m), ELEVATION (m))=
                           [-201.19,100.50]
                           [-135.21, 100.00]
                           [-94.83, 99.50]
                           [-67.05, 99.00]
                           [-17.99, 98.50]
                           [-16.02, 98.00]
                           [-13.95, 97.50]
                           [13.95, 97.50]
                           [15.64, 98.00]
                           [17.31, 98.50]
                           [162.02, 98.50]
                           [172.89 ,99.00]
                           [314.38, 99.00]
                           [343.78, 99.50]
                           [365.67, 100.00]
                           [376.68, 100.00 ]
                           [393.11, 99.50]
                           [404.97, 99.50]
                           [431.70, 100.00]
                           [456.58, 100.50 ]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD              NHYDsum=["S_N8"], NHYDs to add=["N8"+"SW_8"+"HB_DR"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL        NHYDout=["N7"] ,NHYDin=["S_N8"],
                     RDT=[30](min),
                     CHLGTH=[3750](m),  CHSLOPE=[0.0533](%),
                                         FPSLOPE=[0.0533](%),
                     SECNUM=[1.0],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.12,-18.11
                       -0.07,17.22
                       0.12,590.05] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                           [-433.21, 102.00]
                           [-425.34, 101.50]
                           [-377.56, 101.50]
                           [-366.23, 101.00]
                           [-202.60, 100.50]
                           [-96.25, 99.50]
                           [-68.36 99.00]
                           [-18.11, 98.50]
                           [-13.81, 97.50]
                           [13.81, 97.50]
                           [17.22, 98.50]
                           [161.95, 98.50]
                           [173.11, 99.00]
                           [314.05, 99.00]
                           [365.52, 100.00]
                           [404.70, 99.50]
                           [476.74, 100.50]
                           [502.31, 101.00]
                           [584.69, 101.00]
                           [585.79, 101.00]
                           [590.05, 102.00]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
```

```
ADD HYD               NHYDsum=["S_N7"], NHYDs to add=["N7"+"SW_7"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD              NHYD=["S_N7"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                      HYD_FILENAME=["H_SN7"]
                      HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-----------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR       NHYDout=["RES_RF"] ,NHYDin=["S_N7"] ,
                      RDT=[30](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,     0.0 ]
                                      [0.9051,    2.40]
                                      [2.907,     4.13]
                                      [9.744,     9.18]
                                      [20.304,   14.96]
                                      [34.167,  310.21]
                                      [74.993,  605.46]
                                      [104.876, 900.71]
                                      [140.56, 2892.00]
                                      [225.00, 3615.63]
                                      [   -1   ,  -1   ]  (max twenty pts)
                            NHYDovf=["      "] ,
*%-----------------|-----------------------------------------------------------|
SAVE HYD              NHYD=["RES_RF"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                      HYD_FILENAME=["H_ResRF"]
                      HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL         NHYDout=["N6"] ,NHYDin=["RES_RF"] ,
                      RDT=[30](min),
                      CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                         FPSLOPE=[0.0818](%),
                      SECNUM=[1.0],      NSEG=[5]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.025,-70.8
                        0.1,-23.9
                        -0.05,23.9
                        0.06,39.8
                        0.05,96.3] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                                       [-100.8, 97.00]
                                       [-70.8, 96.50]
                                       [-52.0, 96.00]
                                       [-35.1, 95.50]
                                       [-30.6, 95.00]
                                       [-23.9, 94.54]
                                       [23.9, 94.54]
                                       [39.8, 95.00]
                                       [50.4, 95.50]
                                       [93.5, 96.00]
                                       [94.9, 96.50]
                                       [96.3, 97.00]
*%-----------------|-----------------------------------------------------------|
*#
```

```
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD              NHYDsum=["S_N6"], NHYDs to add=["N6"+"SW_6"+"VG_DR"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL        NHYDout=["N5"] ,NHYDin=["S_N6"] ,
                     RDT=[30](min),
                     CHLGTH=[1852](m),  CHSLOPE=[0.0540](%),
                                         FPSLOPE=[0.0540](%),
                     SECNUM=[1.0],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.035,-131.59
                       -0.045,48.96
                       0.1,239.04] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                                      [-686.30, 94.50]
                                      [-675.70, 94.00]
                                      [-492.52, 93.00]
                                      [-467.28, 94.00]
                                      [-131.59, 94.00]
                                      [-92.79, 92.50]
                                      [-18.06, 91.00]
                                      [18.06, 91.00]
                                      [43.47, 92.50]
                                      [48.96, 94.00]
                                      [177.43, 94.00]
                                      [239.04,94.50]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD              NHYDsum=["S_N5"], NHYDs to add=["N5"+"SW_5"+"FL_CK"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL        NHYDout=["N5A"] ,NHYDin=["S_N5"] ,
                     RDT=[30](min),
                     CHLGTH=[556](m),  CHSLOPE=[0.0900](%),
                                         FPSLOPE=[0.0900](%),
                     SECNUM=[1.0],       NSEG=[4]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.04,-41.5
                       0.1,-14.0
                       -0.045,14.0
                       0.1,41.1] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                                      [-275.8, 93.00]
                                      [-248.6, 92.50]
                                      [-237.0, 92.00]
                                      [-219.3, 91.50]
                                      [-202.1, 91.50]
                                      [-186.0, 92.00]
                                      [-129.2, 92.00]
                                      [-117.6, 91.50]
                                      [-100.6, 91.00]
                                      [-41.5, 91.00]
                                      [-20.0, 91.00]
                                      [-14.0, 90.54]
                                      [14.0, 90.54]
                                      [15.3, 91.00]
                                      [17.3, 91.50]
```

```
                                     [38.4, 92.00]
                                     [39.8, 92.50]
                                     [41.1, 93.00]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD                   NHYDsum=["S_N5A"], NHYDs to add=["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL             NHYDout=["N4"] ,NHYDin=["S_N5A"] ,
                          RDT=[30](min),
                          CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                              FPSLOPE=[0.0432](%),
                          SECNUM=[1.0],       NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=
                            [0.05,-28.2
                            -0.035,28.2
                            0.05,173.1] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                                           [-38.9, 92.00]
                                           [-35.8, 91.50]
                                           [-33.3, 91.00]
                                           [-28.2, 90.50]
                                           [-15.0, 87.48]
                                           [-5.0, 88.34]
                                           [5.0, 86.20]
                                           [15.0, 88.55]
                                           [28.2, 90.50]
                                           [29.7, 91.00]
                                           [46.5, 91.00]
                                           [127.8, 91.00]
                                           [148.7, 91.50]
                                           [173.1, 92.00]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD                   NHYDsum=["S_N4"], NHYDs to add=["N4"+"SW_4"+"LM_CK"]
SAVE HYD                  NHYD=["S_N4"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                          HYD_COMMENT=["flow at S_N4"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL             NHYDout=["N2"] ,NHYDin=["S_N4"] ,
                          RDT=[30](min),
                          CHLGTH=[1667](m),  CHSLOPE=[0.0600](%),
                                              FPSLOPE=[0.0600](%),
                          SECNUM=[1.0],       NSEG=[4]
                          ( SEGROUGH, SEGDIST (m))=
                            [0.1,-28.0
                            -0.04,28.4
                            0.06,31.7
                            0.04,80.2] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                                 [-36.3, 92.00]
                                 [-32.6, 91.50]
                                 [-30.2, 91.00]
                                 [-28.0, 90.45]
                                 [-15.0, 87.48]
                                 [-5.0, 88.34]
```

```
                                 [5.0, 86.20]
                                 [15.0, 88.55]
                                 [28.0, 90.45]
                                 [28.4, 90.50]
                                 [30.4, 91.00]
                                 [31.7, 91.50]
                                 [80.2, 92.00]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD                  NHYDsum=["S_N2"], NHYDs to add=["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                 NHYD=["S_N2"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                         HYD_FILENAME=["H_SN2"]
                         HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
ROUTE CHANNEL            NHYDout=["N1"] ,NHYDin=["S_N2"] ,
                         RDT=[30](min),
                         CHLGTH=[10046](m),  CHSLOPE=[0.0498](%),
                                             FPSLOPE=[0.0498](%),
                         SECNUM=[1.0],       NSEG=[5]
                         ( SEGROUGH, SEGDIST (m))=
                           [0.04,-27.6
                           0.06,-15.0
                           -0.045,15.0
                           0.06,25.4
                           0.04,122.6] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=
                                          [-87.0, 91.50]
                                          [-32.4, 91.00]
                                          [-27.6, 90.50]
                                          [-25.0, 90.00]
                                          [-22.9, 89.57]
                                          [-15.0, 86.20]
                                          [-5.0, 84.83]
                                          [5.0, 84.83]
                                          [15.0, 88.11]
                                          [22.9, 89.57]
                                          [25.4, 90.00]
                                          [27.9, 90.50]
                                          [38.0, 91.00]
                                          [112.5, 91.00]
                                          [114.3, 90.50]
                                          [115.1, 90.26]
                                          [116.3, 90.50]
                                          [119.0, 91.00]
                                          [121.0, 91.50]
                                          [122.6, 92.00]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed 1 to Node 1
*#
ADD HYD                  NHYDsum=["N1"], NHYDs to add=["N1"+"SW_1"]
SAVE HYD                 NHYD=["N1"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["total outflow of Jock River"]
*%-----------------|-----------------------------------------------------------|
*##########################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                        ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
```

```
*%  10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[10]
*%                    ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*%  25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[25]
*%                    ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*%  50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[50]
*%                    ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                    ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

```
===================================================================================
SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO        222    000    11   5555   =========
S       W W W   MM MM   H   H    Y Y    MM MM   O   O         2   0   0   11   5
SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O         2   0   0   11   5      Ver 5.500
    S    W W    M   M   H   H     Y     M   M   O   O       222   0   0   11   555    FEB  2015
SSSSS    W W    M   M   H   H     Y     M   M    OOO        2     0   0   11     5    =========
                                                            2     0   0   11     5    # 2549237
      StormWater Management HYdrologic Model                 222    000    11   555    =========

***********************************************************************************
************************************** SWMHYMO Ver 5.500 **************************
******************  A single event and continuous hydrologic simulation model  ******************
******************     based on the principles of HYMO and its successors      ******************
******************              OTTHYMO-83 and OTTHYMO-89.                     ******************
***********************************************************************************
****************** Distributed by:  J.F. Sabourin and Associates Inc.          ******************
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******************                  E-Mail: swmhymo@jfsa.Com                   ******************
***********************************************************************************

+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++ Licensed user: JFSAinc.                                  +++++++++++++++++++
++++++++++++++++++                Ottawa              SERIAL#:2549237       +++++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

***********************************************************************************
******************           ++++++ PROGRAM ARRAY DIMENSIONS ++++++         ******************
******************           Maximum value for ID numbers   :      11       ******************
******************           Max. number of rainfall points: 105408         ******************
******************           Max. number of flow points    : 105408         ******************
***********************************************************************************


********************************   S U M M A R Y   O U T P U T   ******************************
***********************************************************************************
*                    RUN DATE: 2021-02-22      TIME: 15:43:08      RUN COUNTER: 001996       *
***********************************************************************************
* Input   file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\summer.*
*               DAT                                                                           *
* Output  file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\summer.*
*               out                                                                           *
* Summary file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\summer.*
*               sum                                                                           *
* User comments:                                                                              *
* 1:__________________________________________________________________________________________*
* 2:__________________________________________________________________________________________*
* 3:__________________________________________________________________________________________*
***********************************************************************************


#*************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date         : 06-06-2003
#  Modeller     : [JoF]
#  Company      : JFSAinc.
#  License #    :  2549237
#*************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# -----------------------------------------------------------------------
  ** END OF RUN :    1

***********************************************************************************





 RUN#:COMMAND#
R0002:C00001-------------------------------------------------------------------------
      START
        [TZERO =     .00 hrs on        0]
        [METOUT=   2   (1=imperial, 2=metric output)]
        [NSTORM=   1 ]
        [NRUN  = 0002 ]
#*************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date         : 06-06-2003
#  Modeller     : [JoF]
#  Company      : JFSAinc.
#  License #    :  2549237
#*************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# -----------------------------------------------------------------------
R0002:C00002-------------------------------------------------------------------------
      READ STORM
        Filename = storm.001
        Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
        [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
R0002:C00003-------------------------------------------------------------------------
      MODIFY STORM
        [RFACT=  1.00:TSHIFT= 960.00 min]
        [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
R0002:C00004-------------------------------------------------------------------------
      COMPUTE API
        [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
        {APImax= 80.12:  APIavg= 56.74:  APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00     6.065 No_date   37:00   11.44 .251     .000
        [CN= 64.0:  N= 3.00:  Tp= 7.13]
        [IaREC= 4.00:  SMIN= 57.05:  SMAX=380.32:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_13        971.00     2.154 No_date   32:30   10.72 .236     .000
        [CN= 61.0:  N= 3.00:  Tp= 3.76]
        [IaREC= 4.00:  SMIN= 64.50:  SMAX=430.01:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:JR_GWM      3074.00     3.115 No_date   39:30    9.41 .207     .000
        [CN= 55.0:  N= 3.00:  Tp=11.33]
        [IaREC= 4.00:  SMIN= 83.24:  SMAX=554.96:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:JR_ASH      1781.00     5.417 No_date   32:30   13.91 .306     .000
        [CN= 72.0:  N= 3.00:  Tp= 3.91]
        [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_11        500.00     2.663 No_date   29:00   11.95 .263     .000
        [CN= 66.0:  N= 3.00:  Tp= 1.24]
        [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:NN_CK       1917.00     3.966 No_date   34:30   11.95 .263     .000
        [CN= 66.0:  N= 3.00:  Tp= 5.29]
        [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0002:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_10       5666.00    10.936 No_date   38:00   13.91 .306     .000
        [CN= 72.0:  N= 3.00:  Tp= 8.00]
        [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:KG_CK       8376.00    10.656 No_date   39:30   11.95 .263     .000
        [CN= 66.0:  N= 3.00:  Tp=11.66]
        [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0002:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_9        1132.00     4.365 No_date   30:30   13.32 .293     .000
        [CN= 70.0:  N= 3.00:  Tp= 2.51]
        [IaREC= 4.00:  SMIN= 43.07:  SMAX=287.10:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:NC_CK       4464.00     5.312 No_date   39:30   10.96 .241     .000
        [CN= 62.0:  N= 3.00:  Tp=11.32]
        [IaREC= 4.00:  SMIN= 61.90:  SMAX=412.66:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *   CONTINUOUS NASHYD    30.0 01:SW_8         131.00      .770 No_date   28:30   11.20 .246     .000
        [CN= 63.0:  N= 3.00:  Tp=  .90]
        [IaREC= 4.00:  SMIN= 59.42:  SMAX=396.11:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0002:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:HB_DR       3854.00     6.083 No_date   38:30   11.95 .263     .000
        [CN= 66.0:  N= 3.00:  Tp= 8.42]
        [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_7        3197.00     4.557 No_date   36:30    9.83 .216     .000
        [CN= 57.0:  N= 3.00:  Tp= 6.65]
        [IaREC= 4.00:  SMIN= 76.32:  SMAX=508.81:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_6         165.00      .407 No_date   33:00   12.21 .268     .000
        [CN= 67.0:  N= 3.00:  Tp= 4.18]
        [IaREC= 4.00:  SMIN= 50.55:  SMAX=336.97:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0002:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:VG_DR       1332.00     3.083 No_date   35:00   13.91 .306     .000
        [CN= 72.0:  N= 3.00:  Tp= 5.95]
        [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *   CONTINUOUS NASHYD    30.0 01:SW_5         224.00     2.527 No_date   28:30   15.88 .349     .000
        [CN= 77.0:  N= 3.00:  Tp=  .75]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0002:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:FL_CK       4945.00    14.579 No_date   33:00   14.54 .319     .000
        [CN= 74.0:  N= 3.00:  Tp= 4.45]
        [IaREC= 4.00:  SMIN= 36.67:  SMAX=244.49:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *   CONTINUOUS NASHYD    30.0 01:SW_5A2        20.00      .287 No_date   28:30   17.76 .390     .000
        [CN= 81.0:  N= 3.00:  Tp=  .62]
        [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0002:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_5A1      1412.00     3.007 No_date   38:00   15.19 .334     .000
        [CN= 75.0:  N= 3.00:  Tp= 8.00]
        [IaREC= 4.00:  SMIN= 33.81:  SMAX=225.43:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_4         585.00     4.232 No_date   29:30   17.76 .390     .000
        [CN= 81.0:  N= 3.00:  Tp= 1.75]
        [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:LM_CK       1021.00     5.667 No_date   30:30   17.36 .382     .000
        [CN= 80.0:  N= 3.00:  Tp= 2.46]
        [IaREC= 4.00:  SMIN= 26.32:  SMAX=175.50:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *   CONTINUOUS NASHYD    30.0 01:SW_2         177.00     1.996 No_date   28:30   15.88 .349     .000
        [CN= 77.0:  N= 3.00:  Tp=  .75]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SM_DR       1122.00     5.257 No_date   31:30   17.76 .390     .000
        [CN= 81.0:  N= 3.00:  Tp= 3.25]
        [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:MO_DR       2737.00    11.338 No_date   31:30   15.53 .341     .000
        [CN= 76.0:  N= 3.00:  Tp= 3.03]
        [IaREC= 4.00:  SMIN= 32.46:  SMAX=216.39:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_1        3176.00    12.490 No_date   32:00   16.23 .357     .000
        [CN= 78.0:  N= 3.00:  Tp= 3.56]
        [IaREC= 4.00:  SMIN= 29.88:  SMAX=199.22:  SK= .010]
        [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0002:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:JR_HW       3680.00     6.065 No_date   37:00   11.44  n/a     .000
                   +      30.0 02:SW_13        971.00     2.154 No_date   32:30   10.72  n/a     .000
                 SUM=     30.0 01:S_N13       4651.00     7.713 No_date   35:30   11.29  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0002:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N13       4651.00     7.713 No_date   35:30   11.29  n/a     .000
      [RDT=30.00] out<-   30.0 01:N13A        4651.00     6.154 No_date   39:30   11.29  n/a     .000
        [L/S/n= 9074./ .022/.040]
        {Vmax=  .427:Dmax= 2.537}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0002:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N13A        4651.00     6.154 No_date   39:30   11.29  n/a     .000
                   +      30.0 02:JR_GWM      3074.00     3.115 No_date   39:30    9.41  n/a     .000
                 SUM=     30.0 01:SN13A       7725.00     9.269 No_date   39:30   10.54  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0002:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->   30.0 02:SN13A       7725.00     9.269 No_date   39:30   10.54  n/a     .000
                 out <=   30.0 01:RES_GM      7725.00     2.603 No_date   55:30   10.54  n/a     .000
      {MxStoUsed=.3498E+02  m3}
#
R0002:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             30.0 01:RES_GM      7725.00     2.603 No_date   55:30   10.54  n/a     .000
        fname :H_RESGM
        remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:RES_GM      7725.00     2.603 No_date   55:30   10.54  n/a     .000
      [RDT=30.00] out<-   30.0 01:N12         7725.00     2.594 No_date   58:00   10.54  n/a     .000
        [L/S/n= 5926./ .076/.040]
        {Vmax=  .501:Dmax= 1.326}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0002:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N12         7725.00     2.594 No_date   58:00   10.54  n/a     .000
                   +      30.0 02:JR_ASH      1781.00     5.417 No_date   32:30   13.91  n/a     .000
                 SUM=     30.0 01:S_N12       9506.00     7.371 No_date   32:30   11.17  n/a     .000
R0002:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             30.0 01:S_N12       9506.00     7.371 No_date   32:30   11.17  n/a     .000
        fname :H_SN12
        remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00     7.371 No_date   32:30   11.17  n/a     .000
      [RDT=30.00] out<-   30.0 01:N11         9506.00     7.317 No_date   33:00   11.17  n/a     .000
        [L/S/n=  972./ .051/.040]
        {Vmax=  .580:Dmax= 2.119}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0002:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00     7.371 No_date   32:30   11.17  n/a     .000
      [RDT=30.00] out<-   30.0 01:Dum11       9506.00     7.320 No_date   33:00   11.17  n/a     .000
        [L/S/n=  972./ .054/.040]
        {Vmax=  .589:Dmax= 2.098}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0002:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:Dum11       9506.00     7.320 No_date   33:00   11.17  n/a     .000
                   +      30.0 02:SW_11        500.00     2.663 No_date   29:00   11.95  n/a     .000
                   +      30.0 02:NN_CK       1917.00     3.966 No_date   34:30   11.95  n/a     .000
                 SUM=     30.0 01:S_N11      11923.00    11.951 No_date   33:00   11.33  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0002:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N11      11923.00    11.951 No_date   33:00   11.33  n/a     .000
      [RDT=30.00] out<-   30.0 01:N10        11923.00     8.216 No_date   39:30   11.33  n/a     .000
        [L/S/n=14028./ .157/.040]
        {Vmax=  .460:Dmax=  .881}
#
# Addition of Subwatershed 10 to Node 10
#
R0002:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N10        11923.00     8.216 No_date   39:30   11.33  n/a     .000
```

```
                          +    30.0 02:SW_10        5666.00   10.936 No_date   38:00   13.91  n/a     .000
                       SUM=    30.0 01:S_N10       17589.00   19.098 No_date   38:30   12.16  n/a     .000
R0002:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   30.0 01:S_N10       17589.00   19.098 No_date   38:30   12.16  n/a     .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0002:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:S_N10       17589.00   19.098 No_date   38:30   12.16  n/a     .000
                          +    30.0 02:KG_CK        8376.00   10.656 No_date   39:30   11.95  n/a     .000
                       SUM=    30.0 01:S_N10A      25965.00   29.622 No_date   39:30   12.09  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0002:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     30.0 02:S_N10A      25965.00   29.622 No_date   39:30   12.09  n/a     .000
     [RDT=30.00] out<-     30.0 01:N9          25965.00   28.881 No_date   39:30   12.09  n/a     .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .591:Dmax= 1.193}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0002:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:N9          25965.00   28.881 No_date   39:30   12.09  n/a     .000
                          +    30.0 02:SW_9         1132.00    4.365 No_date   30:30   13.32  n/a     .000
                          +    30.0 02:NC_CK        4464.00    5.312 No_date   39:30   10.96  n/a     .000
                       SUM=    30.0 01:S_N9        31561.00   35.488 No_date   39:30   11.98  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0002:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     30.0 02:S_N9        31561.00   35.488 No_date   39:30   11.98  n/a     .000
     [RDT=30.00] out<-     30.0 01:N8          31561.00   33.301 No_date   40:00   11.98  n/a     .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .420:Dmax= 1.270}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:N8          31561.00   33.301 No_date   40:00   11.98  n/a     .000
                          +    30.0 02:SW_8          131.00     .770 No_date   28:30   11.20  n/a     .000
                          +    30.0 02:HB_DR        3854.00    6.083 No_date   38:30   11.95  n/a     .000
                       SUM=    30.0 01:S_N8        35546.00   39.356 No_date   39:30   11.97  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     30.0 02:S_N8        35546.00   39.356 No_date   39:30   11.97  n/a     .000
     [RDT=30.00] out<-     30.0 01:N7          35546.00   32.170 No_date   44:00   11.97  n/a     .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .209:Dmax= 1.635}
#
# Addition of Subwatershed 7 to Node 7
#
R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:N7          35546.00   32.170 No_date   44:00   11.97  n/a     .000
                          +    30.0 02:SW_7         3197.00    4.557 No_date   36:30    9.83  n/a     .000
                       SUM=    30.0 01:S_N7        38743.00   34.345 No_date   43:00   11.79  n/a     .000
R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   30.0 01:S_N7        38743.00   34.345 No_date   43:00   11.79  n/a     .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0002:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     30.0 02:S_N7        38743.00   34.345 No_date   43:00   11.79  n/a     .000
                out <=     30.0 01:RES_RF      38743.00   23.075 No_date   54:30   11.79  n/a     .000
     {MxStoUsed=.7399E+02  m3}
R0002:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   30.0 01:RES_RF      38743.00   23.075 No_date   54:30   11.79  n/a     .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0002:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     30.0 02:RES_RF      38743.00   23.075 No_date   54:30   11.79  n/a     .000
     [RDT=30.00] out<-     30.0 01:N6          38743.00   23.052 No_date   56:00   11.79  n/a     .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .431:Dmax=  .805}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0002:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:N6          38743.00   23.052 No_date   56:00   11.79  n/a     .000
                          +    30.0 02:SW_6          165.00     .407 No_date   33:00   12.21  n/a     .000
                          +    30.0 02:VG_DR        1332.00    3.083 No_date   35:00   13.91  n/a     .000
                       SUM=    30.0 01:S_N6        40240.01   23.225 No_date   39:30   11.87  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0002:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     30.0 02:S_N6        40240.01   23.225 No_date   39:30   11.87  n/a     .000
     [RDT=30.00] out<-     30.0 01:N5          40240.01   23.171 No_date   55:00   11.87  n/a     .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .378:Dmax=  .915}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0002:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:N5          40240.01   23.171 No_date   55:00   11.87  n/a     .000
                          +    30.0 02:SW_5          224.00    2.527 No_date   28:30   15.88  n/a     .000
                          +    30.0 02:FL_CK        4945.00   14.579 No_date   33:00   14.54  n/a     .000
                       SUM=    30.0 01:S_N5        45409.01   32.974 No_date   37:00   12.18  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0002:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     30.0 02:S_N5        45409.01   32.974 No_date   37:00   12.18  n/a     .000
     [RDT=30.00] out<-     30.0 01:N5A         45409.01   32.921 No_date   37:00   12.18  n/a     .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .443:Dmax=  .935}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0002:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:N5A         45409.01   32.921 No_date   37:00   12.18  n/a     .000
                          +    30.0 02:SW_5A2         20.00     .287 No_date   28:30   17.76  n/a     .000
                          +    30.0 02:SW_5A1       1412.00    3.007 No_date   38:00   15.19  n/a     .000
                       SUM=    30.0 01:S_N5A       46841.01   35.939 No_date   37:00   12.27  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0002:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     30.0 02:S_N5A       46841.01   35.939 No_date   37:00   12.27  n/a     .000
     [RDT=30.00] out<-     30.0 01:N4          46841.01   35.066 No_date   39:00   12.27  n/a     .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .693:Dmax= 2.836}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0002:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:N4          46841.01   35.066 No_date   39:00   12.27  n/a     .000
                          +    30.0 02:SW_4          585.00    4.232 No_date   29:30   17.76  n/a     .000
                          +    30.0 02:LM_CK        1021.00    5.667 No_date   30:30   17.36  n/a     .000
                       SUM=    30.0 01:S_N4        48447.00   37.399 No_date   38:30   12.44  n/a     .000
R0002:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   30.0 01:S_N4        48447.00   37.399 No_date   38:30   12.44  n/a     .000
      fname :S_N4.0002
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0002:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     30.0 02:S_N4        48447.00   37.399 No_date   38:30   12.44  n/a     .000
     [RDT=30.00] out<-     30.0 01:N2          48447.00   37.299 No_date   39:00   12.44  n/a     .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .714:Dmax= 2.841}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0002:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:N2          48447.00   37.299 No_date   39:00   12.44  n/a     .000
                          +    30.0 02:SW_2          177.00    1.996 No_date   28:30   15.88  n/a     .000
                          +    30.0 02:SM_DR        1122.00    5.257 No_date   31:30   17.76  n/a     .000
                          +    30.0 02:MO_DR        2737.00   11.338 No_date   31:30   15.53  n/a     .000
                       SUM=    30.0 01:S_N2        52483.00   45.676 No_date   33:30   12.73  n/a     .000
R0002:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   30.0 01:S_N2        52483.00   45.676 No_date   33:30   12.73  n/a     .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
R0002:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     30.0 02:S_N2        52483.00   45.676 No_date   33:30   12.73  n/a     .000
     [RDT=30.00] out<-     30.0 01:N1          52483.00   42.605 No_date   39:30   12.73  n/a     .000
      [L/S/n=10046./ .050/.040]
      {Vmax=  .767:Dmax= 2.662}
#
# Addition of Subwatershed 1 to Node 1
#
R0002:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    30.0 02:N1          52483.00   42.605 No_date   39:30   12.73  n/a     .000
                          +    30.0 02:SW_1         3176.00   12.490 No_date   32:00   16.23  n/a     .000
                       SUM=    30.0 01:N1          55659.00   49.164 No_date   36:30   12.93  n/a     .000
R0002:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   30.0 01:N1          55659.00   49.164 No_date   36:30   12.93  n/a     .000
      fname :N1.0002
      remark:total outflow of Jock River
##############################################################################
  ** END OF RUN :    4

*******************************************************************************************





 RUN#:COMMAND#
R0005:C00001--------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0005 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date         : 06-06-2003
#  Modeller     : [JoF]
#  Company      : JFSAinc.
#  License #    :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# ---------------------------------------------------------------------------
R0005:C00002--------------------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
R0005:C00003--------------------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
R0005:C00004--------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 90.83: APIavg= 60.09: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0005:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00    9.169 No_date   37:00   16.38 .287     .000
      [CN= 64.0: N= 3.00: Tp= 7.13]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_13        971.00    3.350 No_date   32:30   15.27 .267     .000
      [CN= 61.0: N= 3.00: Tp= 3.76]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_GWM      3074.00    4.511 No_date   39:30   13.20 .231     .000
      [CN= 55.0: N= 3.00: Tp=11.33]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_ASH      1781.00    8.382 No_date   32:30   20.09 .352     .000
      [CN= 72.0: N= 3.00: Tp= 3.91]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_11        500.00    4.260 No_date   29:00   17.15 .300     .000
      [CN= 66.0: N= 3.00: Tp= 1.24]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:NN_CK       1917.00    6.085 No_date   34:00   17.15 .300     .000
      [CN= 66.0: N= 3.00: Tp= 5.29]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_10       5666.00   16.454 No_date   38:00   20.09 .352     .000
      [CN= 72.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:KG_CK       8376.00   15.668 No_date   39:30   17.15 .300     .000
      [CN= 66.0: N= 3.00: Tp=11.66]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_9        1132.00    6.854 No_date   30:30   19.22 .336     .000
      [CN= 70.0: N= 3.00: Tp= 2.51]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:NC_CK       4464.00    7.795 No_date   39:30   15.63 .274     .000
      [CN= 62.0: N= 3.00: Tp=11.32]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_8         131.00    1.239 No_date   28:30   16.00 .280     .000
      [CN= 63.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:HB_DR       3854.00    9.126 No_date   38:30   17.15 .300     .000
      [CN= 66.0: N= 3.00: Tp= 8.42]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_7        3197.00    6.873 No_date   36:00   13.87 .243     .000
      [CN= 57.0: N= 3.00: Tp= 6.65]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_6         165.00     .630 No_date   33:00   17.55 .307     .000
      [CN= 67.0: N= 3.00: Tp= 4.18]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:VG_DR       1332.00    4.700 No_date   35:00   20.09 .352     .000
      [CN= 72.0: N= 3.00: Tp= 5.95]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_5         224.00    3.985 No_date   28:30   22.94 .402     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:FL_CK       4945.00   22.432 No_date   33:00   21.01 .368     .000
      [CN= 74.0: N= 3.00: Tp= 4.45]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_5A2        20.00     .448 No_date   28:30   25.59 .448     .000
      [CN= 81.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
```

```
     CONTINUOUS NASHYD     30.0 01:SW_5A1       1412.00    4.515 No_date   37:30   21.96 .384     .000
        [CN= 75.0: N= 3.00: Tp= 8.00]
        [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
        [InterEventTime=  12.00]
R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_4          585.00    6.551 No_date   29:30   25.59 .448     .000
        [CN= 81.0: N= 3.00: Tp= 1.75]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:LM_CK        1021.00    8.738 No_date   30:30   25.04 .438     .000
        [CN= 80.0: N= 3.00: Tp= 2.46]
        [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
        [InterEventTime=  12.00]
R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *   CONTINUOUS NASHYD     30.0 01:SW_2          177.00    3.149 No_date   28:30   22.94 .402     .000
        [CN= 77.0: N= 3.00: Tp=  .75]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SM_DR        1122.00    8.043 No_date   31:30   25.59 .448     .000
        [CN= 81.0: N= 3.00: Tp= 3.25]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:MO_DR        2737.00   17.548 No_date   31:30   22.44 .393     .000
        [CN= 76.0: N= 3.00: Tp= 3.03]
        [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
        [InterEventTime=  12.00]
R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_1         3176.00   19.206 No_date   32:00   23.45 .411     .000
        [CN= 78.0: N= 3.00: Tp= 3.56]
        [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
        [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:JR_HW        3680.00    9.169 No_date   37:00   16.38  n/a     .000
                       +   30.0 02:SW_13         971.00    3.350 No_date   32:30   15.27  n/a     .000
                    SUM=   30.0 01:S_N13        4651.00   11.688 No_date   35:30   16.15  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N13        4651.00   11.688 No_date   35:30   16.15  n/a     .000
      [RDT=30.00] out<-    30.0 01:N13A         4651.00    9.343 No_date   39:30   16.15  n/a     .000
        [L/S/n= 9074./ .022/.040]
        {Vmax=  .475:Dmax= 2.992}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N13A         4651.00    9.343 No_date   39:30   16.15  n/a     .000
                       +   30.0 02:JR_GWM       3074.00    4.511 No_date   39:30   13.20  n/a     .000
                    SUM=   30.0 01:SN13A        7725.00   13.855 No_date   39:30   14.97  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    30.0 02:SN13A        7725.00   13.855 No_date   39:30   14.97  n/a     .000
                out <=     30.0 01:RES_GM       7725.00    3.124 No_date   58:00   14.97  n/a     .000
      {MxStoUsed=.6193E+02  m3}
#
R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:RES_GM       7725.00    3.124 No_date   58:00   14.97  n/a     .000
        fname :H_RESGM
        remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:RES_GM       7725.00    3.124 No_date   58:00   14.97  n/a     .000
      [RDT=30.00] out<-    30.0 01:N12          7725.00    3.114 No_date   60:30   14.97  n/a     .000
        [L/S/n= 5926./ .076/.040]
        {Vmax=  .525:Dmax= 1.424}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N12          7725.00    3.114 No_date   60:30   14.97  n/a     .000
                       +   30.0 02:JR_ASH       1781.00    8.382 No_date   32:30   20.09  n/a     .000
                    SUM=   30.0 01:S_N12        9506.00   10.361 No_date   32:30   15.93  n/a     .000
R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N12        9506.00   10.361 No_date   32:30   15.93  n/a     .000
        fname :H_SN12
        remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N12        9506.00   10.361 No_date   32:30   15.93  n/a     .000
      [RDT=30.00] out<-    30.0 01:N11          9506.00   10.228 No_date   33:00   15.93  n/a     .000
        [L/S/n=  972./ .051/.040]
        {Vmax=  .634:Dmax= 2.417}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N12        9506.00   10.361 No_date   32:30   15.93  n/a     .000
      [RDT=30.00] out<-    30.0 01:Dum11        9506.00   10.240 No_date   33:00   15.93  n/a     .000
        [L/S/n=  972./ .054/.040]
        {Vmax=  .645:Dmax= 2.392}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:Dum11        9506.00   10.240 No_date   33:00   15.93  n/a     .000
                       +   30.0 02:SW_11         500.00    4.260 No_date   29:00   17.15  n/a     .000
                       +   30.0 02:NN_CK        1917.00    6.085 No_date   34:00   17.15  n/a     .000
                    SUM=   30.0 01:S_N11       11923.00   17.312 No_date   33:00   16.18  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N11       11923.00   17.312 No_date   33:00   16.18  n/a     .000
      [RDT=30.00] out<-    30.0 01:N10         11923.00   11.896 No_date   38:30   16.18  n/a     .000
        [L/S/n=14028./ .157/.040]
        {Vmax=  .462:Dmax= 1.078}
#
# Addition of Subwatershed 10 to Node 10
#
R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N10         11923.00   11.896 No_date   38:30   16.18  n/a     .000
                       +   30.0 02:SW_10        5666.00   16.454 No_date   38:00   20.09  n/a     .000
                    SUM=   30.0 01:S_N10       17589.00   28.336 No_date   38:00   17.44  n/a     .000
R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N10       17589.00   28.336 No_date   38:00   17.44  n/a     .000
        fname :H_SN10
        remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:S_N10       17589.00   28.336 No_date   38:00   17.44  n/a     .000
                       +   30.0 02:KG_CK        8376.00   15.668 No_date   39:30   17.15  n/a     .000
                    SUM=   30.0 01:S_N10A      25965.00   43.586 No_date   39:30   17.35  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N10A      25965.00   43.586 No_date   39:30   17.35  n/a     .000
      [RDT=30.00] out<-    30.0 01:N9          25965.00   42.441 No_date   39:30   17.35  n/a     .000
        [L/S/n= 3982./ .075/.040]
        {Vmax=  .663:Dmax= 1.480}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N9          25965.00   42.441 No_date   39:30   17.35  n/a     .000
                       +   30.0 02:SW_9         1132.00    6.854 No_date   30:30   19.22  n/a     .000
                       +   30.0 02:NC_CK        4464.00    7.795 No_date   39:30   15.63  n/a     .000
                    SUM=   30.0 01:S_N9        31561.00   52.066 No_date   39:30   17.17  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N9        31561.00   52.066 No_date   39:30   17.17  n/a     .000
      [RDT=30.00] out<-    30.0 01:N8          31561.00   48.431 No_date   40:00   17.17  n/a     .000
        [L/S/n= 2269./ .088/.045]
        {Vmax=  .371:Dmax= 1.510}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N8          31561.00   48.431 No_date   40:00   17.17  n/a     .000
                       +   30.0 02:SW_8          131.00    1.239 No_date   28:30   16.00  n/a     .000
                       +   30.0 02:HB_DR        3854.00    9.126 No_date   38:30   17.15  n/a     .000
                    SUM=   30.0 01:S_N8        35546.00   57.169 No_date   39:30   17.17  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N8        35546.00   57.169 No_date   39:30   17.17  n/a     .000
      [RDT=30.00] out<-    30.0 01:N7          35546.00   46.889 No_date   45:00   17.17  n/a     .000
        [L/S/n= 3750./ .053/.070]
        {Vmax=  .207:Dmax= 1.839}
#
# Addition of Subwatershed 7 to Node 7
#
R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N7          35546.00   46.889 No_date   45:00   17.17  n/a     .000
                       +   30.0 02:SW_7         3197.00    6.873 No_date   36:00   13.87  n/a     .000
                    SUM=   30.0 01:S_N7        38743.00   50.119 No_date   43:30   16.89  n/a     .000
R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N7        38743.00   50.119 No_date   43:30   16.89  n/a     .000
        fname :H_SN7
        remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0005:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    30.0 02:S_N7        38743.00   50.119 No_date   43:30   16.89  n/a     .000
                out <=     30.0 01:RES_RF      38743.00   27.645 No_date   59:00   16.89  n/a     .000
      {MxStoUsed=.1713E+03  m3}
R0005:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:RES_RF      38743.00   27.645 No_date   59:00   16.89  n/a     .000
        fname :H_ResRF
        remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0005:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:RES_RF      38743.00   27.645 No_date   59:00   16.89  n/a     .000
      [RDT=30.00] out<-    30.0 01:N6          38743.00   27.614 No_date   60:00   16.89  n/a     .000
        [L/S/n= 3056./ .082/.025]
        {Vmax=  .458:Dmax=  .889}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0005:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N6          38743.00   27.614 No_date   60:00   16.89  n/a     .000
                       +   30.0 02:SW_6          165.00     .630 No_date   33:00   17.55  n/a     .000
                       +   30.0 02:VG_DR        1332.00    4.700 No_date   35:00   20.09  n/a     .000
                    SUM=   30.0 01:S_N6        40240.01   27.687 No_date   59:30   17.00  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0005:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N6        40240.01   27.687 No_date   59:30   17.00  n/a     .000
      [RDT=30.00] out<-    30.0 01:N5          40240.01   27.652 No_date   59:30   17.00  n/a     .000
        [L/S/n= 1852./ .054/.035]
        {Vmax=  .396:Dmax=  .997}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0005:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N5          40240.01   27.652 No_date   59:30   17.00  n/a     .000
                       +   30.0 02:SW_5          224.00    3.985 No_date   28:30   22.94  n/a     .000
                       +   30.0 02:FL_CK        4945.00   22.432 No_date   33:00   21.01  n/a     .000
                    SUM=   30.0 01:S_N5        45409.01   43.197 No_date   35:00   17.47  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0005:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N5        45409.01   43.197 No_date   35:00   17.47  n/a     .000
      [RDT=30.00] out<-    30.0 01:N5A         45409.01   43.159 No_date   35:30   17.47  n/a     .000
        [L/S/n=  556./ .090/.040]
        {Vmax=  .464:Dmax= 1.057}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0005:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N5A         45409.01   43.159 No_date   35:30   17.47  n/a     .000
                       +   30.0 02:SW_5A2         20.00     .448 No_date   28:30   25.59  n/a     .000
                       +   30.0 02:SW_5A1       1412.00    4.515 No_date   37:30   21.96  n/a     .000
                    SUM=   30.0 01:S_N5A       46841.01   47.514 No_date   35:30   17.61  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0005:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N5A       46841.01   47.514 No_date   35:30   17.61  n/a     .000
      [RDT=30.00] out<-    30.0 01:N4          46841.01   45.852 No_date   37:30   17.61  n/a     .000
        [L/S/n= 4630./ .043/.035]
        {Vmax=  .753:Dmax= 3.105}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0005:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N4          46841.01   45.852 No_date   37:30   17.61  n/a     .000
                       +   30.0 02:SW_4          585.00    6.551 No_date   29:30   25.59  n/a     .000
                       +   30.0 02:LM_CK        1021.00    8.738 No_date   30:30   25.04  n/a     .000
                    SUM=   30.0 01:S_N4        48447.00   49.994 No_date   36:30   17.86  n/a     .000
R0005:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N4        48447.00   49.994 No_date   36:30   17.86  n/a     .000
        fname :S_N4.0005
        remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0005:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N4        48447.00   49.994 No_date   36:30   17.86  n/a     .000
      [RDT=30.00] out<-    30.0 01:N2          48447.00   49.884 No_date   37:00   17.86  n/a     .000
        [L/S/n= 1667./ .060/.040]
        {Vmax=  .780:Dmax= 3.124}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0005:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N2          48447.00   49.884 No_date   37:00   17.86  n/a     .000
                       +   30.0 02:SW_2          177.00    3.149 No_date   28:30   22.94  n/a     .000
                       +   30.0 02:SM_DR        1122.00    8.043 No_date   31:30   25.59  n/a     .000
                       +   30.0 02:MO_DR        2737.00   17.548 No_date   31:30   22.44  n/a     .000
                    SUM=   30.0 01:S_N2        52483.00   66.292 No_date   33:00   18.28  n/a     .000
R0005:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N2        52483.00   66.292 No_date   33:00   18.28  n/a     .000
        fname :H_SN2
        remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
R0005:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N2        52483.00   66.292 No_date   33:00   18.28  n/a     .000
      [RDT=30.00] out<-    30.0 01:N1          52483.00   59.697 No_date   37:00   18.28  n/a     .000
        [L/S/n=10046./ .050/.040]
        {Vmax=  .861:Dmax= 3.201}
#
# Addition of Subwatershed 1 to Node 1
#
R0005:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N1          52483.00   59.697 No_date   37:00   18.28  n/a     .000
                       +   30.0 02:SW_1         3176.00   19.206 No_date   32:00   23.45  n/a     .000
                    SUM=   30.0 01:N1          55659.00   72.079 No_date   35:00   18.58  n/a     .000
R0005:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:N1          55659.00   72.079 No_date   35:00   18.58  n/a     .000
        fname :N1.0005
        remark:total outflow of Jock River
##########################################################################
  ** END OF RUN :    9

*****************************************************************************************

 RUN#:COMMAND#
R0010:C00001------------------------------------------------------------------------------
      START
        [TZERO =    .00 hrs on        0]
        [METOUT=   2    (1=imperial, 2=metric output)]
        [NSTORM=   1 ]
        [NRUN  = 0010 ]
#*************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date         : 06-06-2003
#  Modeller     : [JoF]
#  Company      : JFSAinc.
#  License #    :  2549237
#*************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# -----------------------------------------------------------------------
R0010:C00002------------------------------------------------------------------------------
      READ STORM
        Filename = storm.001
        Comment  = Pluie SCS de 24 hres 1:10 ans pour Ottawa CDA
        [SDT=10.00:SDUR=  24.00:PTOT=  64.69]
R0010:C00003------------------------------------------------------------------------------
      MODIFY STORM
        [RFACT=  1.00:TSHIFT= 960.00 min]
        [SDT=10.00:SDUR=  40.00:PTOT=  64.69]
R0010:C00004------------------------------------------------------------------------------
      COMPUTE API
        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
        {APImax= 97.81: APIavg= 62.29: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0010:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:JR_HW        3680.00   11.582 No_date   36:30   20.20 .312     .000
        [CN= 64.0: N= 3.00: Tp= 7.13]
```

```
          [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.32
 R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SW_13          971.00     4.293 No_date   32:30   18.81 .291      .000
          [CN= 61.0: N= 3.00: Tp= 3.76]
          [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.80
 R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:JR_GWM        3074.00     5.604 No_date   39:30   16.19 .250      .000
          [CN= 55.0: N= 3.00: Tp=11.33]
          [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:JR_ASH        1781.00    10.659 No_date   32:30   24.78 .383      .000
          [CN= 72.0: N= 3.00: Tp= 3.91]
          [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SW_11          500.00     5.516 No_date   29:00   21.17 .327      .000
          [CN= 66.0: N= 3.00: Tp= 1.24]
          [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.80
 R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:NN_CK         1917.00     7.737 No_date   34:00   21.17 .327      .000
          [CN= 66.0: N= 3.00: Tp= 5.29]
          [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.52
 R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SW_10         5666.00    20.651 No_date   37:30   24.78 .383      .000
          [CN= 72.0: N= 3.00: Tp= 8.00]
          [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.75
 R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:KG_CK         8376.00    19.522 No_date   39:30   21.17 .327      .000
          [CN= 66.0: N= 3.00: Tp=11.66]
          [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.68
 R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SW_9          1132.00     8.783 No_date   30:30   23.71 .366      .000
          [CN= 70.0: N= 3.00: Tp= 2.51]
          [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.82
 R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:NC_CK         4464.00     9.718 No_date   39:30   19.27 .298      .000
          [CN= 62.0: N= 3.00: Tp=11.32]
          [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.80
 R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *   CONTINUOUS NASHYD     30.0 01:SW_8           131.00     1.610 No_date   28:30   19.73 .305      .000
          [CN= 63.0: N= 3.00: Tp=  .90]
          [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.65
 R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:HB_DR         3854.00    11.473 No_date   38:30   21.17 .327      .000
          [CN= 66.0: N= 3.00: Tp= 8.42]
          [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.82
 R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SW_7          3197.00     8.697 No_date   36:00   17.04 .263      .000
          [CN= 57.0: N= 3.00: Tp= 6.65]
          [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.75
 R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SW_6           165.00      .804 No_date   33:00   21.66 .335      .000
          [CN= 67.0: N= 3.00: Tp= 4.18]
          [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.67
 R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:VG_DR         1332.00     5.936 No_date   35:00   24.78 .383      .000
          [CN= 72.0: N= 3.00: Tp= 5.95]
          [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *   CONTINUOUS NASHYD     30.0 01:SW_5           224.00     5.097 No_date   28:30   28.21 .436      .000
          [CN= 77.0: N= 3.00: Tp=  .75]
          [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.20
 R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:FL_CK         4945.00    28.428 No_date   33:00   25.89 .400      .000
          [CN= 74.0: N= 3.00: Tp= 4.45]
          [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *   CONTINUOUS NASHYD     30.0 01:SW_5A2          20.00      .569 No_date   28:30   31.34 .484      .000
          [CN= 81.0: N= 3.00: Tp=  .62]
          [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
          [InterEventTime= 12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.61
 R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SW_5A1        1412.00     5.651 No_date   37:30   27.03 .418      .000
          [CN= 75.0: N= 3.00: Tp= 8.00]
          [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SW_4           585.00     8.289 No_date   29:30   31.34 .484      .000
          [CN= 81.0: N= 3.00: Tp= 1.75]
          [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:LM_CK         1021.00    11.041 No_date   30:30   30.69 .474      .000
          [CN= 80.0: N= 3.00: Tp= 2.46]
          [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *   CONTINUOUS NASHYD     30.0 01:SW_2           177.00     4.027 No_date   28:30   28.21 .436      .000
          [CN= 77.0: N= 3.00: Tp=  .75]
          [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SM_DR         1122.00    10.121 No_date   31:30   31.34 .484      .000
          [CN= 81.0: N= 3.00: Tp= 3.25]
          [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:MO_DR         2737.00    22.263 No_date   31:30   27.61 .427      .000
          [CN= 76.0: N= 3.00: Tp= 3.03]
          [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
          [InterEventTime= 12.00]
 R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     30.0 01:SW_1          3176.00    24.273 No_date   32:00   28.81 .445      .000
          [CN= 78.0: N= 3.00: Tp= 3.56]
          [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
          [InterEventTime= 12.00]
 #
 # Routing hydrographs
 #
 # Starting with the addition of Jock River Headwater and Subwatershed 13
 #
 R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:JR_HW         3680.00    11.582 No_date   36:30   20.20  n/a      .000
                         +  30.0 02:SW_13          971.00     4.293 No_date   32:30   18.81  n/a      .000
                      SUM=  30.0 01:S_N13         4651.00    14.791 No_date   35:00   19.91  n/a      .000
 #
 # Sum of hydrographs from Node 13 routed to Node 13A
 # (Approximated cross-section - see cross-section 258)
 # Use n=0.04 for summer conditions and n=0.025 for spring conditions
 #
 R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:S_N13         4651.00    14.791 No_date   35:00   19.91  n/a      .000
       [RDT=30.00] out<-    30.0 01:N13A          4651.00    11.868 No_date   39:30   19.91  n/a      .000
         [L/S/n= 9074./ .022/.040]
         {Vmax=  .505:Dmax= 3.276}
 #
 # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
 #
 R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:N13A          4651.00    11.868 No_date   39:30   19.91  n/a      .000
                         +  30.0 02:JR_GWM        3074.00     5.604 No_date   39:30   16.19  n/a      .000
                      SUM=  30.0 01:SN13A         7725.00    17.472 No_date   39:30   18.43  n/a      .000
 #
 # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
 #
 R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    30.0 02:SN13A         7725.00    17.472 No_date   39:30   18.43  n/a      .000
                  out <=    30.0 01:RES_GM        7725.00     3.517 No_date   59:00   18.43  n/a      .000
       {MxStoUsed=.8337E+02  m3}
 #
 R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              30.0 01:RES_GM        7725.00     3.517 No_date   59:00   18.43  n/a      .000
        fname :H_RESGM
        remark:Outflow from Res GM
 # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
 # (Approximated cross-section - see cross-section 258)
 # Use n=0.04 for summer conditions and n=0.025 for spring conditions
 R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:RES_GM        7725.00     3.517 No_date   59:00   18.43  n/a      .000
       [RDT=30.00] out<-    30.0 01:N12           7725.00     3.511 No_date   63:00   18.43  n/a      .000
         [L/S/n= 5926./ .076/.040]
         {Vmax=  .546:Dmax= 1.498}
 #
 # Addition of Subwatershed Jock River at Ashton to Node 12
 #
 R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:N12           7725.00     3.511 No_date   63:00   18.43  n/a      .000
                         +  30.0 02:JR_ASH        1781.00    10.659 No_date   32:30   24.78  n/a      .000
                      SUM=  30.0 01:S_N12         9506.00    12.656 No_date   32:30   19.62  n/a      .000
 R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              30.0 01:S_N12         9506.00    12.656 No_date   32:30   19.62  n/a      .000
        fname :H_SN12
        remark:flow at S_N12 near Ashton
 #
 # Sum of hydrographs from Node 12 routed to Node 11
 # (Approximated cross-section - see cross-section 258)
 # Use n=0.04 for summer conditions and n=0.025 for spring conditions
 R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:S_N12         9506.00    12.656 No_date   32:30   19.62  n/a      .000
       [RDT=30.00] out<-    30.0 01:N11           9506.00    12.477 No_date   33:00   19.62  n/a      .000
         [L/S/n=  972./ .051/.040]
         {Vmax=  .665:Dmax= 2.609}
 #
 # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
 #
 R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:S_N12         9506.00    12.656 No_date   32:30   19.62  n/a      .000
       [RDT=30.00] out<-    30.0 01:Dum11         9506.00    12.493 No_date   33:00   19.62  n/a      .000
         [L/S/n=  972./ .054/.040]
         {Vmax=  .677:Dmax= 2.584}
 #
 # Addition of Subwatershed 11 and No Name Creek to Node 11
 #
 R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:Dum11         9506.00    12.493 No_date   33:00   19.62  n/a      .000
                         +  30.0 02:SW_11          500.00     5.516 No_date   29:00   21.17  n/a      .000
                         +  30.0 02:NN_CK         1917.00     7.737 No_date   34:00   21.17  n/a      .000
                      SUM=  30.0 01:S_N11        11923.00    21.461 No_date   33:00   19.93  n/a      .000
 #
 # Sum of hydrographs from Node 11 routed to Node 10
 # Section 1
 #
 R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:S_N11        11923.00    21.461 No_date   33:00   19.93  n/a      .000
       [RDT=30.00] out<-    30.0 01:N10          11923.00    14.609 No_date   39:30   19.93  n/a      .000
         [L/S/n=14028./ .157/.040]
         {Vmax=  .451:Dmax= 1.206}
 #
 # Addition of Subwatershed 10 to Node 10
 #
 R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:N10          11923.00    14.609 No_date   39:30   19.93  n/a      .000
                         +  30.0 02:SW_10         5666.00    20.651 No_date   37:30   24.78  n/a      .000
                      SUM=  30.0 01:S_N10        17589.00    35.073 No_date   38:30   21.50  n/a      .000
 R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              30.0 01:S_N10        17589.00    35.073 No_date   38:30   21.50  n/a      .000
        fname :H_SN10
        remark:flow at S_N10: N10 + SW_10
 # Addition of Kings Creek to S_N10
 #
 R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:S_N10        17589.00    35.073 No_date   38:30   21.50  n/a      .000
                         +  30.0 02:KG_CK         8376.00    19.522 No_date   39:30   21.17  n/a      .000
                      SUM=  30.0 01:S_N10A       25965.00    54.317 No_date   39:30   21.39  n/a      .000
 #
 # Sum of hydrographs from Node 10 routed to Node 9
 # Section 2
 #
 R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:S_N10A       25965.00    54.317 No_date   39:30   21.39  n/a      .000
       [RDT=30.00] out<-    30.0 01:N9           25965.00    52.431 No_date   39:30   21.39  n/a      .000
         [L/S/n= 3982./ .075/.040]
         {Vmax=  .679:Dmax= 1.676}
 #
 # Addition of Subwatershed 9 and Nichols Creek to Node 9
 #
 R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:N9           25965.00    52.431 No_date   39:30   21.39  n/a      .000
                         +  30.0 02:SW_9          1132.00     8.783 No_date   30:30   23.71  n/a      .000
                         +  30.0 02:NC_CK         4464.00     9.718 No_date   39:30   19.27  n/a      .000
                      SUM=  30.0 01:S_N9         31561.00    64.367 No_date   39:30   21.17  n/a      .000
 #
 # Sum of hydrographs from Node 9 routed to Node 8
 # Section 3
 #
 R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:S_N9         31561.00    64.367 No_date   39:30   21.17  n/a      .000
       [RDT=30.00] out<-    30.0 01:N8           31561.00    60.135 No_date   40:00   21.17  n/a      .000
         [L/S/n= 2269./ .088/.045]
         {Vmax=  .364:Dmax= 1.604}
 #
 # Addition of Subwatershed 8 and Hobb's Drain to Node 8
 #
 R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:N8           31561.00    60.135 No_date   40:00   21.17  n/a      .000
                         +  30.0 02:SW_8           131.00     1.610 No_date   28:30   19.73  n/a      .000
                         +  30.0 02:HB_DR         3854.00    11.473 No_date   38:30   21.17  n/a      .000
                      SUM=  30.0 01:S_N8         35546.00    71.021 No_date   39:30   21.17  n/a      .000
 #
 # Sum of hydrographs from Node 8 routed to Node 7
 # Section 4
 #
 R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:S_N8         35546.00    71.021 No_date   39:30   21.17  n/a      .000
       [RDT=30.00] out<-    30.0 01:N7           35546.00    59.731 No_date   44:30   21.17  n/a      .000
         [L/S/n= 3750./ .053/.070]
         {Vmax=  .216:Dmax= 1.966}
 #
 # Addition of Subwatershed 7 to Node 7
 #
 R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:N7           35546.00    59.731 No_date   44:30   21.17  n/a      .000
                         +  30.0 02:SW_7          3197.00     8.697 No_date   36:00   17.04  n/a      .000
                      SUM=  30.0 01:S_N7         38743.00    64.039 No_date   44:00   20.83  n/a      .000
 R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              30.0 01:S_N7         38743.00    64.039 No_date   44:00   20.83  n/a      .000
        fname :H_SN7
        remark:flow at S_N7: N7 + SW_7
 # Insertion of a reservoir to simulate the effects of the Richmond Fen.
 # Storage area and volumes were estimated from available topo maps.
 # Release rate from fen was assumed to be controlled by the downstream
 # river cross-section for summer conditions.  It is was assumed that for up to
 # 0.75 m of water, the main channel of the river provided the storage.  Above
 # this depth, the wetland starts to signigicantly store water.
 #
 R0010:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    30.0 02:S_N7         38743.00    64.039 No_date   44:00   20.83  n/a      .000
                  out <=    30.0 01:RES_RF       38743.00    31.370 No_date   60:30   20.83  n/a      .000
       {MxStoUsed=.2507E+03  m3}
 R0010:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              30.0 01:RES_RF       38743.00    31.370 No_date   60:30   20.83  n/a      .000
        fname :H_ResRF
        remark:outflow of Richmond Fen
 #
 # Sum of hydrographs from Node 7 routed to Node 6
 # Section 5
 #
 R0010:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:RES_RF       38743.00    31.370 No_date   60:30   20.83  n/a      .000
       [RDT=30.00] out<-    30.0 01:N6           38743.00    31.314 No_date   62:00   20.83  n/a      .000
         [L/S/n= 3056./ .082/.025]
         {Vmax=  .475:Dmax=  .953}
 #
 # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
 #
 R0010:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:N6           38743.00    31.314 No_date   62:00   20.83  n/a      .000
                         +  30.0 02:SW_6           165.00      .804 No_date   33:00   21.66  n/a      .000
                         +  30.0 02:VG_DR         1332.00     5.936 No_date   35:00   24.78  n/a      .000
                      SUM=  30.0 01:S_N6         40240.01    31.366 No_date   61:00   20.96  n/a      .000
 #
 # Sum of hydrographs from Node 6 routed to Node 5
 # Section 6
 #
 R0010:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    30.0 02:S_N6         40240.01    31.366 No_date   61:00   20.96  n/a      .000
       [RDT=30.00] out<-    30.0 01:N5           40240.01    31.341 No_date   62:00   20.96  n/a      .000
         [L/S/n= 1852./ .054/.035]
         {Vmax=  .411:Dmax= 1.064}
 #
 # Addition of Subwatershed 5 and Flowing Creek to Node 5
 #
 R0010:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               30.0 02:N5           40240.01    31.341 No_date   62:00   20.96  n/a      .000
                         +  30.0 02:SW_5           224.00     5.097 No_date   28:30   28.21  n/a      .000
                         +  30.0 02:FL_CK         4945.00    28.428 No_date   33:00   25.89  n/a      .000
```

```
                    SUM=   30.0 01:S_N5       45409.01   50.940 No_date   34:30   21.53  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0010:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N5       45409.01   50.940 No_date   34:30   21.53  n/a     .000
     [RDT=30.00] out<-   30.0 01:N5A        45409.01   50.883 No_date   35:00   21.53  n/a     .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .484:Dmax= 1.127}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0010:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N5A        45409.01   50.883 No_date   35:00   21.53  n/a     .000
                      +  30.0 02:SW_5A2        20.00     .569 No_date   28:30   31.34  n/a     .000
                      +  30.0 02:SW_5A1      1412.00    5.651 No_date   37:30   27.03  n/a     .000
                    SUM= 30.0 01:S_N5A      46841.01   56.195 No_date   35:00   21.70  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0010:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N5A      46841.01   56.195 No_date   35:00   21.70  n/a     .000
     [RDT=30.00] out<-   30.0 01:N4         46841.01   54.050 No_date   36:30   21.70  n/a     .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .790:Dmax= 3.283}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0010:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N4         46841.01   54.050 No_date   36:30   21.70  n/a     .000
                      +  30.0 02:SW_4         585.00    8.289 No_date   29:30   31.34  n/a     .000
                      +  30.0 02:LM_CK       1021.00   11.041 No_date   30:30   30.69  n/a     .000
                    SUM= 30.0 01:S_N4       48447.00   59.486 No_date   36:00   22.01  n/a     .000
R0010:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N4       48447.00   59.486 No_date   36:00   22.01  n/a     .000
      fname :S_N4.0010
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0010:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N4       48447.00   59.486 No_date   36:00   22.01  n/a     .000
     [RDT=30.00] out<-   30.0 01:N2         48447.00   59.258 No_date   36:00   22.01  n/a     .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .822:Dmax= 3.316}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0010:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N2         48447.00   59.258 No_date   36:00   22.01  n/a     .000
                      +  30.0 02:SW_2         177.00    4.027 No_date   28:30   28.21  n/a     .000
                      +  30.0 02:SM_DR       1122.00   10.121 No_date   31:30   31.34  n/a     .000
                      +  30.0 02:MO_DR       2737.00   22.263 No_date   31:30   27.61  n/a     .000
                    SUM= 30.0 01:S_N2       52483.00   82.076 No_date   33:00   22.52  n/a     .000
R0010:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N2       52483.00   82.076 No_date   33:00   22.52  n/a     .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
R0010:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N2       52483.00   82.076 No_date   33:00   22.52  n/a     .000
     [RDT=30.00] out<-   30.0 01:N1         52483.00   72.984 No_date   36:30   22.52  n/a     .000
      [L/S/n=10046./ .050/.040]
      {Vmax=  .924:Dmax= 3.539}
#
# Addition of Subwatershed 1 to Node 1
#
R0010:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N1         52483.00   72.984 No_date   36:30   22.52  n/a     .000
                      +  30.0 02:SW_1        3176.00   24.273 No_date   32:00   28.81  n/a     .000
                    SUM= 30.0 01:N1         55659.00   89.955 No_date   34:30   22.88  n/a     .000
R0010:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:N1         55659.00   89.955 No_date   34:30   22.88  n/a     .000
      fname :N1.0010
      remark:total outflow of Jock River
##############################################################################
  ** END OF RUN :   24

*****************************************************************************************

 RUN#:COMMAND#
R0025:C00001-----------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0025 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date          : 06-06-2003
#  Modeller      : [JoF]
#  Company       : JFSAinc.
#  License #     :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# ---------------------------------------------------------------------------
R0025:C00002-----------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
      [SDT=10.00:SDUR= 24.00:PTOT= 74.39]
R0025:C00003-----------------------------------------------------------------------------
     MODIFY STORM
      [RFACT= 1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR= 40.00:PTOT= 74.39]
R0025:C00004-----------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax=106.76: APIavg= 65.09: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0025:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00   15.104 No_date   36:30   25.77 .346     .000
      [CN= 64.0: N= 3.00: Tp= 7.13]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_13        971.00    5.679 No_date   32:30   24.00 .323     .000
      [CN= 61.0: N= 3.00: Tp= 3.76]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_GWM      3074.00    7.216 No_date   39:30   20.63 .277     .000
      [CN= 55.0: N= 3.00: Tp=11.33]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime= 12.00]
R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_ASH      1781.00   13.927 No_date   32:30   31.47 .423     .000
      [CN= 72.0: N= 3.00: Tp= 3.91]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime= 12.00]
R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_11        500.00    7.356 No_date   29:00   26.99 .363     .000
      [CN= 66.0: N= 3.00: Tp= 1.24]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:NN_CK       1917.00   10.139 No_date   34:00   26.99 .363     .000
      [CN= 66.0: N= 3.00: Tp= 5.29]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_10       5666.00   26.665 No_date   37:30   31.47 .423     .000
      [CN= 72.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:KG_CK       8376.00   25.107 No_date   39:30   26.99 .363     .000
      [CN= 66.0: N= 3.00: Tp=11.66]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_9        1132.00   11.574 No_date   30:30   30.15 .405     .000
      [CN= 70.0: N= 3.00: Tp= 2.51]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:NC_CK       4464.00   12.525 No_date   39:30   24.58 .330     .000
      [CN= 62.0: N= 3.00: Tp=11.32]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_8         131.00    2.156 No_date   28:30   25.17 .338     .000
      [CN= 63.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:HB_DR       3854.00   14.880 No_date   38:30   26.99 .363     .000
      [CN= 66.0: N= 3.00: Tp= 8.42]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_7        3197.00   11.391 No_date   36:00   21.73 .292     .000
      [CN= 57.0: N= 3.00: Tp= 6.65]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_6         165.00    1.056 No_date   33:00   27.61 .371     .000
      [CN= 67.0: N= 3.00: Tp= 4.18]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:VG_DR       1332.00    7.707 No_date   35:00   31.47 .423     .000
      [CN= 72.0: N= 3.00: Tp= 5.95]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime= 12.00]
R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_5         224.00    6.682 No_date   28:30   35.63 .479     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:FL_CK       4945.00   36.990 No_date   33:00   32.82 .441     .000
      [CN= 74.0: N= 3.00: Tp= 4.45]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime= 12.00]
R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_5A2        20.00     .739 No_date   28:30   39.33 .529     .000
      [CN= 81.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime= 12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_5A1      1412.00    7.263 No_date   37:30   34.21 .460     .000
      [CN= 75.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime= 12.00]
R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_4         585.00   10.733 No_date   29:30   39.33 .529     .000
      [CN= 81.0: N= 3.00: Tp= 1.75]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime= 12.00]
R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:LM_CK       1021.00   14.279 No_date   30:30   38.57 .519     .000
      [CN= 80.0: N= 3.00: Tp= 2.46]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime= 12.00]
R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_2         177.00    5.280 No_date   28:30   35.63 .479     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SM_DR       1122.00   13.030 No_date   31:30   39.33 .529     .000
      [CN= 81.0: N= 3.00: Tp= 3.25]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime= 12.00]
R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:MO_DR       2737.00   28.975 No_date   31:00   34.91 .469     .000
      [CN= 76.0: N= 3.00: Tp= 3.03]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime= 12.00]
R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_1        3176.00   31.429 No_date   32:00   36.35 .489     .000
      [CN= 78.0: N= 3.00: Tp= 3.56]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime= 12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:JR_HW       3680.00   15.104 No_date   36:30   25.77  n/a     .000
                      +  30.0 02:SW_13        971.00    5.679 No_date   32:30   24.00  n/a     .000
                    SUM= 30.0 01:S_N13       4651.00   19.326 No_date   35:00   25.40  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N13       4651.00   19.326 No_date   35:00   25.40  n/a     .000
     [RDT=30.00] out<-   30.0 01:N13A        4651.00   15.622 No_date   39:00   25.40  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .545:Dmax= 3.628}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N13A        4651.00   15.622 No_date   39:00   25.40  n/a     .000
                      +  30.0 02:JR_GWM      3074.00    7.216 No_date   39:30   20.63  n/a     .000
                    SUM= 30.0 01:SN13A       7725.00   22.816 No_date   39:30   23.50  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   30.0 02:SN13A       7725.00   22.816 No_date   39:30   23.50  n/a     .000
                 out <=  30.0 01:RES_GM      7725.00    3.669 No_date   61:00   23.50  n/a     .000
     {MxStoUsed=.1171E+03  m3}
#
R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:RES_GM      7725.00    3.669 No_date   61:00   23.50  n/a     .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:RES_GM      7725.00    3.669 No_date   61:00   23.50  n/a     .000
     [RDT=30.00] out<-   30.0 01:N12         7725.00    3.665 No_date   64:00   23.50  n/a     .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .552:Dmax= 1.522}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0025:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N12         7725.00    3.665 No_date   64:00   23.50  n/a     .000
                      +  30.0 02:JR_ASH      1781.00   13.927 No_date   32:30   31.47  n/a     .000
                    SUM= 30.0 01:S_N12       9506.00   15.946 No_date   32:30   24.99  n/a     .000
R0025:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N12       9506.00   15.946 No_date   32:30   24.99  n/a     .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0025:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   15.946 No_date   32:30   24.99  n/a     .000
     [RDT=30.00] out<-   30.0 01:N11         9506.00   15.700 No_date   33:00   24.99  n/a     .000
      [L/S/n=  972./ .051/.040]
      {Vmax=  .705:Dmax= 2.858}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0025:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   15.946 No_date   32:30   24.99  n/a     .000
     [RDT=30.00] out<-   30.0 01:Dum11       9506.00   15.719 No_date   33:00   24.99  n/a     .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .718:Dmax= 2.831}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0025:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:Dum11       9506.00   15.719 No_date   33:00   24.99  n/a     .000
                      +  30.0 02:SW_11        500.00    7.356 No_date   29:00   26.99  n/a     .000
```

```
                       +     30.0 02:NN_CK       1917.00    10.139 No_date   34:00   26.99  n/a      .000
                    SUM=     30.0 01:S_N11      11923.00    27.440 No_date   33:00   25.40  n/a      .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0025:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N11      11923.00    27.440 No_date   33:00   25.40  n/a      .000
      [RDT=30.00] out<-    30.0 01:N10        11923.00    17.756 No_date   40:00   25.40  n/a      .000
       [L/S/n=14028./ .157/.040]
       {Vmax=  .463:Dmax= 1.320}
#
# Addition of Subwatershed 10 to Node 10
#
R0025:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N10        11923.00    17.756 No_date   40:00   25.40  n/a      .000
                       +   30.0 02:SW_10       5666.00    26.665 No_date   37:30   31.47  n/a      .000
                    SUM=   30.0 01:S_N10      17589.00    44.045 No_date   38:30   27.35  n/a      .000
R0025:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N10      17589.00    44.045 No_date   38:30   27.35  n/a      .000
       fname :H_SN10
       remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0025:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:S_N10      17589.00    44.045 No_date   38:30   27.35  n/a      .000
                       +   30.0 02:KG_CK       8376.00    25.107 No_date   39:30   26.99  n/a      .000
                    SUM=   30.0 01:S_N10A     25965.00    68.824 No_date   39:30   27.24  n/a      .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0025:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N10A     25965.00    68.824 No_date   39:30   27.24  n/a      .000
      [RDT=30.00] out<-    30.0 01:N9         25965.00    66.905 No_date   39:30   27.24  n/a      .000
       [L/S/n= 3982./ .075/.040]
       {Vmax=  .713:Dmax= 1.864}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0025:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N9         25965.00    66.905 No_date   39:30   27.24  n/a      .000
                       +   30.0 02:SW_9        1132.00    11.574 No_date   30:30   30.15  n/a      .000
                       +   30.0 02:NC_CK       4464.00    12.525 No_date   39:30   24.58  n/a      .000
                    SUM=   30.0 01:S_N9       31561.00    82.190 No_date   39:30   26.97  n/a      .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0025:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N9       31561.00    82.190 No_date   39:30   26.97  n/a      .000
      [RDT=30.00] out<-    30.0 01:N8         31561.00    77.115 No_date   40:00   26.97  n/a      .000
       [L/S/n= 2269./ .088/.045]
       {Vmax=  .362:Dmax= 1.727}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0025:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N8         31561.00    77.115 No_date   40:00   26.97  n/a      .000
                       +   30.0 02:SW_8         131.00     2.156 No_date   28:30   25.17  n/a      .000
                       +   30.0 02:HB_DR       3854.00    14.880 No_date   38:30   26.99  n/a      .000
                    SUM=   30.0 01:S_N8       35546.00    91.271 No_date   39:30   26.96  n/a      .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0025:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N8       35546.00    91.271 No_date   39:30   26.96  n/a      .000
      [RDT=30.00] out<-    30.0 01:N7         35546.00    78.196 No_date   45:00   26.96  n/a      .000
       [L/S/n= 3750./ .053/.070]
       {Vmax=  .225:Dmax= 2.134}
#
# Addition of Subwatershed 7 to Node 7
#
R0025:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N7         35546.00    78.196 No_date   45:00   26.96  n/a      .000
                       +   30.0 02:SW_7        3197.00    11.391 No_date   36:00   21.73  n/a      .000
                    SUM=   30.0 01:S_N7       38743.00    84.011 No_date   44:00   26.53  n/a      .000
R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N7       38743.00    84.011 No_date   44:00   26.53  n/a      .000
       fname :H_SN7
       remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0025:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    30.0 02:S_N7       38743.00    84.011 No_date   44:00   26.53  n/a      .000
                out <=     30.0 01:RES_RF     38743.00    40.725 No_date   60:30   26.53  n/a      .000
      {MxStoUsed=.3577E+03  m3}
R0025:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:RES_RF     38743.00    40.725 No_date   60:30   26.53  n/a      .000
       fname :H_ResRF
       remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0025:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:RES_RF     38743.00    40.725 No_date   60:30   26.53  n/a      .000
      [RDT=30.00] out<-    30.0 01:N6         38743.00    40.549 No_date   61:30   26.53  n/a      .000
       [L/S/n= 3056./ .082/.025]
       {Vmax=  .510:Dmax= 1.101}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0025:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N6         38743.00    40.549 No_date   61:30   26.53  n/a      .000
                       +   30.0 02:SW_6         165.00     1.056 No_date   33:00   27.61  n/a      .000
                       +   30.0 02:VG_DR       1332.00     7.707 No_date   35:00   31.47  n/a      .000
                    SUM=   30.0 01:S_N6       40240.01    40.613 No_date   61:30   26.70  n/a      .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0025:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N6       40240.01    40.613 No_date   61:30   26.70  n/a      .000
      [RDT=30.00] out<-    30.0 01:N5         40240.01    40.523 No_date   62:30   26.70  n/a      .000
       [L/S/n= 1852./ .054/.035]
       {Vmax=  .440:Dmax= 1.203}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0025:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N5         40240.01    40.523 No_date   62:30   26.70  n/a      .000
                       +   30.0 02:SW_5         224.00     6.682 No_date   28:30   35.63  n/a      .000
                       +   30.0 02:FL_CK       4945.00    36.990 No_date   33:00   32.82  n/a      .000
                    SUM=   30.0 01:S_N5       45409.01    61.906 No_date   34:00   27.41  n/a      .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0025:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N5       45409.01    61.906 No_date   34:00   27.41  n/a      .000
      [RDT=30.00] out<-    30.0 01:N5A        45409.01    61.890 No_date   34:30   27.41  n/a      .000
       [L/S/n=  556./ .090/.040]
       {Vmax=  .510:Dmax= 1.217}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0025:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N5A        45409.01    61.890 No_date   34:30   27.41  n/a      .000
                       +   30.0 02:SW_5A2        20.00      .739 No_date   28:30   39.33  n/a      .000
                       +   30.0 02:SW_5A1      1412.00     7.263 No_date   37:30   34.21  n/a      .000
                    SUM=   30.0 01:S_N5A      46841.01    68.494 No_date   34:30   27.62  n/a      .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0025:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N5A      46841.01    68.494 No_date   34:30   27.62  n/a      .000
      [RDT=30.00] out<-    30.0 01:N4         46841.01    65.794 No_date   36:30   27.62  n/a      .000
       [L/S/n= 4630./ .043/.035]
       {Vmax=  .838:Dmax= 3.516}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N4         46841.01    65.794 No_date   36:30   27.62  n/a      .000
                       +   30.0 02:SW_4         585.00    10.733 No_date   29:30   39.33  n/a      .000
                       +   30.0 02:LM_CK       1021.00    14.279 No_date   30:30   38.57  n/a      .000
                    SUM=   30.0 01:S_N4       48447.00    73.162 No_date   35:30   27.99  n/a      .000
R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N4       48447.00    73.162 No_date   35:30   27.99  n/a      .000
       fname :S_N4.0025
       remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N4       48447.00    73.162 No_date   35:30   27.99  n/a      .000
      [RDT=30.00] out<-    30.0 01:N2         48447.00    72.927 No_date   35:30   27.99  n/a      .000
       [L/S/n= 1667./ .060/.040]
       {Vmax=  .871:Dmax= 3.558}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N2         48447.00    72.927 No_date   35:30   27.99  n/a      .000
                       +   30.0 02:SW_2         177.00     5.280 No_date   28:30   35.63  n/a      .000
                       +   30.0 02:SM_DR       1122.00    13.030 No_date   31:30   39.33  n/a      .000
                       +   30.0 02:MO_DR       2737.00    28.975 No_date   31:00   34.91  n/a      .000
                    SUM=   30.0 01:S_N2       52483.00   104.643 No_date   33:00   28.62  n/a      .000
R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N2       52483.00   104.643 No_date   33:00   28.62  n/a      .000
       fname :H_SN2
       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N2       52483.00   104.643 No_date   33:00   28.62  n/a      .000
      [RDT=30.00] out<-    30.0 01:N1         52483.00    92.450 No_date   36:00   28.62  n/a      .000
       [L/S/n=10046./ .050/.040]
       {Vmax=  .998:Dmax= 3.955}
#
# Addition of Subwatershed 1 to Node 1
#
R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N1         52483.00    92.450 No_date   36:00   28.62  n/a      .000
                       +   30.0 02:SW_1        3176.00    31.429 No_date   32:00   36.35  n/a      .000
                    SUM=   30.0 01:N1         55659.00   115.838 No_date   34:30   29.06  n/a      .000
R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:N1         55659.00   115.838 No_date   34:30   29.06  n/a      .000
       fname :N1.0025
       remark:total outflow of Jock River
###############################################################################
  ** END OF RUN :    49

*******************************************************************************************

 RUN#:COMMAND#
R0050:C00001------------------------------------------------------------------------------------
      START
        [TZERO =    .00 hrs on        0]
        [METOUT=   2    (1=imperial, 2=metric output)]
        [NSTORM=   1 ]
        [NRUN  = 0050 ]
#******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date         : 06-06-2003
#  Modeller     : [JoF]
#  Company      : JFSAinc.
#  License #    :  2549237
#******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# ----------------------------------------------------------------------------
R0050:C00002------------------------------------------------------------------------------------
      READ STORM
        Filename = storm.001
        Comment  = Pluie SCS de 24 hres 1:50 ans pour Ottawa CDA
        [SDT=10.00:SDUR=  24.00:PTOT=  81.51]
R0050:C00003------------------------------------------------------------------------------------
      MODIFY STORM
        [RFACT=  1.00:TSHIFT= 960.00 min]
        [SDT=10.00:SDUR=  40.00:PTOT=  81.51]
R0050:C00004------------------------------------------------------------------------------------
      COMPUTE API
        [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
        {APImax=113.33:  APIavg= 67.14:  APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0050:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:JR_HW       3680.00    17.963 No_date   36:30   30.30 .372    .000
        [CN= 64.0:  N= 3.00:  Tp= 7.13]
        [IaREC= 4.00:  SMIN= 57.05:  SMAX=380.32:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_13        971.00     6.816 No_date   32:30   28.25 .347    .000
        [CN= 61.0:  N= 3.00:  Tp= 3.76]
        [IaREC= 4.00:  SMIN= 64.50:  SMAX=430.01:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:JR_GWM      3074.00     8.540 No_date   39:30   24.29 .298    .000
        [CN= 55.0:  N= 3.00:  Tp=11.33]
        [IaREC= 4.00:  SMIN= 83.24:  SMAX=554.96:  SK= .010]
        [InterEventTime=  12.00]
R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:JR_ASH      1781.00    16.547 No_date   32:30   36.82 .452    .000
        [CN= 72.0:  N= 3.00:  Tp= 3.91]
        [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
        [InterEventTime=  12.00]
R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_11        500.00     8.861 No_date   29:00   31.71 .389    .000
        [CN= 66.0:  N= 3.00:  Tp= 1.24]
        [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:NN_CK       1917.00    12.088 No_date   34:00   31.71 .389    .000
        [CN= 66.0:  N= 3.00:  Tp= 5.29]
        [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_10       5666.00    31.459 No_date   37:30   36.82 .452    .000
        [CN= 72.0:  N= 3.00:  Tp= 8.00]
        [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:KG_CK       8376.00    29.616 No_date   39:30   31.71 .389    .000
        [CN= 66.0:  N= 3.00:  Tp=11.66]
        [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_9        1132.00    13.828 No_date   30:30   35.33 .433    .000
        [CN= 70.0:  N= 3.00:  Tp= 2.51]
        [IaREC= 4.00:  SMIN= 43.07:  SMAX=287.10:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:NC_CK       4464.00    14.806 No_date   39:30   28.93 .355    .000
        [CN= 62.0:  N= 3.00:  Tp=11.32]
        [IaREC= 4.00:  SMIN= 61.90:  SMAX=412.66:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *  CONTINUOUS NASHYD     30.0 01:SW_8         131.00     2.605 No_date   28:30   29.61 .363    .000
        [CN= 63.0:  N= 3.00:  Tp=  .90]
        [IaREC= 4.00:  SMIN= 59.42:  SMAX=396.11:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:HB_DR       3854.00    17.631 No_date   38:30   31.71 .389    .000
        [CN= 66.0:  N= 3.00:  Tp= 8.42]
        [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_7        3197.00    13.606 No_date   36:00   25.59 .314    .000
        [CN= 57.0:  N= 3.00:  Tp= 6.65]
        [IaREC= 4.00:  SMIN= 76.32:  SMAX=508.81:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_6         165.00     1.261 No_date   33:00   32.42 .398    .000
        [CN= 67.0:  N= 3.00:  Tp= 4.18]
        [IaREC= 4.00:  SMIN= 50.55:  SMAX=336.97:  SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:VG_DR       1332.00     9.122 No_date   35:00   36.82 .452    .000
        [CN= 72.0:  N= 3.00:  Tp= 5.95]
        [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
        [InterEventTime=  12.00]
R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *  CONTINUOUS NASHYD     30.0 01:SW_5         224.00     7.947 No_date   28:30   41.48 .509    .000
        [CN= 77.0:  N= 3.00:  Tp=  .75]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
#
```

```
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:FL_CK        4945.00   43.824 No_date   33:00   38.35 .470     .000
       [CN= 74.0:  N= 3.00:  Tp= 4.45]
       [IaREC= 4.00:  SMIN= 36.67:  SMAX=244.49:  SK= .010]
       [InterEventTime=  12.00]
R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
  *  CONTINUOUS NASHYD     30.0 01:SW_5A2         20.00     .873 No_date   28:30   45.57 .559     .000
       [CN= 81.0:  N= 3.00:  Tp=  .62]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_5A1       1412.00    8.537 No_date   37:30   39.90 .490     .000
       [CN= 75.0:  N= 3.00:  Tp= 8.00]
       [IaREC= 4.00:  SMIN= 33.81:  SMAX=225.43:  SK= .010]
       [InterEventTime=  12.00]
R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_4          585.00   12.656 No_date   29:30   45.57 .559     .000
       [CN= 81.0:  N= 3.00:  Tp= 1.75]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:LM_CK        1021.00   16.828 No_date   30:30   44.74 .549     .000
       [CN= 80.0:  N= 3.00:  Tp= 2.46]
       [IaREC= 4.00:  SMIN= 26.32:  SMAX=175.50:  SK= .010]
       [InterEventTime=  12.00]
R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
  *  CONTINUOUS NASHYD     30.0 01:SW_2          177.00    6.279 No_date   28:30   41.48 .509     .000
       [CN= 77.0:  N= 3.00:  Tp=  .75]
       [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
       [InterEventTime=  12.00]
R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SM_DR        1122.00   15.311 No_date   31:30   45.57 .559     .000
       [CN= 81.0:  N= 3.00:  Tp= 3.25]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:MO_DR        2737.00   34.329 No_date   31:00   40.69 .499     .000
       [CN= 76.0:  N= 3.00:  Tp= 3.03]
       [IaREC= 4.00:  SMIN= 32.46:  SMAX=216.39:  SK= .010]
       [InterEventTime=  12.00]
R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     30.0 01:SW_1         3176.00   37.086 No_date   32:00   42.28 .519     .000
       [CN= 78.0:  N= 3.00:  Tp= 3.56]
       [IaREC= 4.00:  SMIN= 29.88:  SMAX=199.22:  SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:JR_HW        3680.00   17.963 No_date   36:30   30.30  n/a     .000
                      +    30.0 02:SW_13         971.00    6.816 No_date   32:30   28.25  n/a     .000
                   SUM=    30.0 01:S_N13        4651.00   23.017 No_date   35:00   29.87  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N13        4651.00   23.017 No_date   35:00   29.87  n/a     .000
      [RDT=30.00] out<-    30.0 01:N13A         4651.00   18.758 No_date   38:30   29.87  n/a     .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .571:Dmax= 3.883}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N13A         4651.00   18.758 No_date   38:30   29.87  n/a     .000
                      +    30.0 02:JR_GWM       3074.00    8.540 No_date   39:30   24.29  n/a     .000
                   SUM=    30.0 01:SN13A        7725.00   27.242 No_date   39:30   27.65  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    30.0 02:SN13A        7725.00   27.242 No_date   39:30   27.65  n/a     .000
                 out <=    30.0 01:RES_GM       7725.00    3.797 No_date   62:30   27.65  n/a     .000
      {MxStoUsed=.1456E+03  m3}
#
R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:RES_GM       7725.00    3.797 No_date   62:30   27.65  n/a     .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:RES_GM       7725.00    3.797 No_date   62:30   27.65  n/a     .000
      [RDT=30.00] out<-    30.0 01:N12          7725.00    3.794 No_date   65:00   27.65  n/a     .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .556:Dmax= 1.539}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N12          7725.00    3.794 No_date   65:00   27.65  n/a     .000
                      +    30.0 02:JR_ASH       1781.00   16.547 No_date   32:30   36.82  n/a     .000
                   SUM=    30.0 01:S_N12        9506.00   18.583 No_date   32:30   29.37  n/a     .000
R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N12        9506.00   18.583 No_date   32:30   29.37  n/a     .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N12        9506.00   18.583 No_date   32:30   29.37  n/a     .000
      [RDT=30.00] out<-    30.0 01:N11          9506.00   18.279 No_date   32:30   29.37  n/a     .000
       [L/S/n=  972./ .051/.040]
       {Vmax=  .734:Dmax= 3.040}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N12        9506.00   18.583 No_date   32:30   29.37  n/a     .000
      [RDT=30.00] out<-    30.0 01:Dum11        9506.00   18.314 No_date   32:30   29.37  n/a     .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .748:Dmax= 3.010}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:Dum11        9506.00   18.314 No_date   32:30   29.37  n/a     .000
                      +    30.0 02:SW_11         500.00    8.861 No_date   29:00   31.71  n/a     .000
                      +    30.0 02:NN_CK        1917.00   12.088 No_date   34:00   31.71  n/a     .000
                   SUM=    30.0 01:S_N11       11923.00   32.241 No_date   33:00   29.84  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N11       11923.00   32.241 No_date   33:00   29.84  n/a     .000
      [RDT=30.00] out<-    30.0 01:N10         11923.00   20.165 No_date   40:00   29.84  n/a     .000
       [L/S/n=14028./ .157/.040]
       {Vmax=  .473:Dmax= 1.413}
#
# Addition of Subwatershed 10 to Node 10
#
R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N10         11923.00   20.165 No_date   40:00   29.84  n/a     .000
                      +    30.0 02:SW_10        5666.00   31.459 No_date   37:30   36.82  n/a     .000
                   SUM=    30.0 01:S_N10       17589.00   51.443 No_date   38:00   32.09  n/a     .000
R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N10       17589.00   51.443 No_date   38:00   32.09  n/a     .000
       fname :H_SN10
       remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:S_N10       17589.00   51.443 No_date   38:00   32.09  n/a     .000
                      +    30.0 02:KG_CK        8376.00   29.616 No_date   39:30   31.71  n/a     .000
                   SUM=    30.0 01:S_N10A      25965.00   80.385 No_date   39:30   31.97  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N10A      25965.00   80.385 No_date   39:30   31.97  n/a     .000
      [RDT=30.00] out<-    30.0 01:N9          25965.00   78.483 No_date   39:30   31.97  n/a     .000
       [L/S/n= 3982./ .075/.040]
       {Vmax=  .739:Dmax= 1.990}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N9          25965.00   78.483 No_date   39:30   31.97  n/a     .000
                      +    30.0 02:SW_9         1132.00   13.828 No_date   30:30   35.33  n/a     .000
                      +    30.0 02:NC_CK        4464.00   14.806 No_date   39:30   28.93  n/a     .000
                   SUM=    30.0 01:S_N9        31561.00   96.483 No_date   39:30   31.66  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N9        31561.00   96.483 No_date   39:30   31.66  n/a     .000
      [RDT=30.00] out<-    30.0 01:N8          31561.00   91.152 No_date   40:00   31.66  n/a     .000
       [L/S/n= 2269./ .088/.045]
       {Vmax=  .367:Dmax= 1.816}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N8          31561.00   91.152 No_date   40:00   31.66  n/a     .000
                      +    30.0 02:SW_8          131.00    2.605 No_date   28:30   29.61  n/a     .000
                      +    30.0 02:HB_DR        3854.00   17.631 No_date   38:30   31.71  n/a     .000
                   SUM=    30.0 01:S_N8        35546.00  108.049 No_date   39:30   31.66  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N8        35546.00  108.049 No_date   39:30   31.66  n/a     .000
      [RDT=30.00] out<-    30.0 01:N7          35546.00   92.806 No_date   44:30   31.66  n/a     .000
       [L/S/n= 3750./ .053/.070]
       {Vmax=  .230:Dmax= 2.266}
#
# Addition of Subwatershed 7 to Node 7
#
R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N7          35546.00   92.806 No_date   44:30   31.66  n/a     .000
                      +    30.0 02:SW_7         3197.00   13.606 No_date   36:00   25.59  n/a     .000
                   SUM=    30.0 01:S_N7        38743.00  100.010 No_date   43:30   31.16  n/a     .000
R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N7        38743.00  100.010 No_date   43:30   31.16  n/a     .000
       fname :H_SN7
       remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0050:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    30.0 02:S_N7        38743.00  100.010 No_date   43:30   31.16  n/a     .000
                 out <=    30.0 01:RES_RF      38743.00   50.512 No_date   59:00   31.16  n/a     .000
      {MxStoUsed=.4285E+03  m3}
R0050:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:RES_RF      38743.00   50.512 No_date   59:00   31.16  n/a     .000
       fname :H_ResRF
       remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0050:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:RES_RF      38743.00   50.512 No_date   59:00   31.16  n/a     .000
      [RDT=30.00] out<-    30.0 01:N6          38743.00   50.296 No_date   60:30   31.16  n/a     .000
       [L/S/n= 3056./ .082/.025]
       {Vmax=  .534:Dmax= 1.234}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0050:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N6          38743.00   50.296 No_date   60:30   31.16  n/a     .000
                      +    30.0 02:SW_6          165.00    1.261 No_date   33:00   32.42  n/a     .000
                      +    30.0 02:VG_DR        1332.00    9.122 No_date   35:00   36.82  n/a     .000
                   SUM=    30.0 01:S_N6        40240.01   50.407 No_date   60:30   31.35  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0050:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N6        40240.01   50.407 No_date   60:30   31.35  n/a     .000
      [RDT=30.00] out<-    30.0 01:N5          40240.01   50.300 No_date   61:00   31.35  n/a     .000
       [L/S/n= 1852./ .054/.035]
       {Vmax=  .466:Dmax= 1.333}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0050:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N5          40240.01   50.300 No_date   61:00   31.35  n/a     .000
                      +    30.0 02:SW_5          224.00    7.947 No_date   28:30   41.48  n/a     .000
                      +    30.0 02:FL_CK        4945.00   43.824 No_date   33:00   38.35  n/a     .000
                   SUM=    30.0 01:S_N5        45409.01   70.670 No_date   34:00   32.16  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0050:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N5        45409.01   70.670 No_date   34:00   32.16  n/a     .000
      [RDT=30.00] out<-    30.0 01:N5A         45409.01   70.588 No_date   34:30   32.16  n/a     .000
       [L/S/n=  556./ .090/.040]
       {Vmax=  .528:Dmax= 1.284}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0050:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N5A         45409.01   70.588 No_date   34:30   32.16  n/a     .000
                      +    30.0 02:SW_5A2         20.00     .873 No_date   28:30   45.57  n/a     .000
                      +    30.0 02:SW_5A1       1412.00    8.537 No_date   37:30   39.90  n/a     .000
                   SUM=    30.0 01:S_N5A       46841.01   78.358 No_date   34:30   32.40  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0050:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N5A       46841.01   78.358 No_date   34:30   32.40  n/a     .000
      [RDT=30.00] out<-    30.0 01:N4          46841.01   75.078 No_date   36:00   32.40  n/a     .000
       [L/S/n= 4630./ .043/.035]
       {Vmax=  .871:Dmax= 3.687}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0050:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N4          46841.01   75.078 No_date   36:00   32.40  n/a     .000
                      +    30.0 02:SW_4          585.00   12.656 No_date   29:30   45.57  n/a     .000
                      +    30.0 02:LM_CK        1021.00   16.828 No_date   30:30   44.74  n/a     .000
                   SUM=    30.0 01:S_N4        48447.00   84.137 No_date   35:00   32.82  n/a     .000
R0050:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N4        48447.00   84.137 No_date   35:00   32.82  n/a     .000
       fname :S_N4.0050
       remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0050:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N4        48447.00   84.137 No_date   35:00   32.82  n/a     .000
      [RDT=30.00] out<-    30.0 01:N2          48447.00   83.911 No_date   35:30   32.82  n/a     .000
       [L/S/n= 1667./ .060/.040]
       {Vmax=  .907:Dmax= 3.737}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0050:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N2          48447.00   83.911 No_date   35:30   32.82  n/a     .000
                      +    30.0 02:SW_2          177.00    6.279 No_date   28:30   41.48  n/a     .000
                      +    30.0 02:SM_DR        1122.00   15.311 No_date   31:30   45.57  n/a     .000
                      +    30.0 02:MO_DR        2737.00   34.329 No_date   31:00   40.69  n/a     .000
                   SUM=    30.0 01:S_N2        52483.00  122.469 No_date   33:00   33.53  n/a     .000
R0050:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N2        52483.00  122.469 No_date   33:00   33.53  n/a     .000
       fname :H_SN2
       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
R0050:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    30.0 02:S_N2        52483.00  122.469 No_date   33:00   33.53  n/a     .000
      [RDT=30.00] out<-    30.0 01:N1          52483.00  107.946 No_date   35:30   33.53  n/a     .000
       [L/S/n=10046./ .050/.040]
       {Vmax= 1.047:Dmax= 4.256}
#
# Addition of Subwatershed 1 to Node 1
#
R0050:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N1          52483.00  107.946 No_date   35:30   33.53  n/a     .000
                      +    30.0 02:SW_1         3176.00   37.086 No_date   32:00   42.28  n/a     .000
                   SUM=    30.0 01:N1          55659.00  136.459 No_date   34:00   34.03  n/a     .000
R0050:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:N1          55659.00  136.459 No_date   34:00   34.03  n/a     .000
       fname :N1.0050
       remark:total outflow of Jock River
#############################################################################
  ** END OF RUN :   99

****************************************************************************************************





 RUN#:COMMAND#
R0100:C00001------------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0100 ]
#**************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date          : 06-06-2003
#  Modeller      : [JoF]
#  Company       : JFSAinc.
#  License #     :  2549237
#**************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------
R0100:C00002------------------------------------------------------------------------------------------
      READ STORM
        Filename = storm.001
```

```
       Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
       [SDT=10.00:SDUR= 24.00:PTOT=  88.57]
R0100:C00003--------------------------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR= 40.00:PTOT=  88.57]
R0100:C00004--------------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
       {APImax=119.84: APIavg= 69.19: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0100:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00   21.054 No_date   36:30   35.15 .397      .000
       [CN= 64.0: N= 3.00: Tp= 7.13]
       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0100:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_13        971.00    8.058 No_date   32:30   32.81 .370      .000
       [CN= 61.0: N= 3.00: Tp= 3.76]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:JR_GWM      3074.00    9.983 No_date   39:30   28.27 .319      .000
       [CN= 55.0: N= 3.00: Tp=11.33]
       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
       [InterEventTime=  12.00]
R0100:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:JR_ASH      1781.00   19.356 No_date   32:30   42.46 .479      .000
       [CN= 72.0: N= 3.00: Tp= 3.91]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0100:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_11        500.00   10.499 No_date   29:00   36.74 .415      .000
       [CN= 66.0: N= 3.00: Tp= 1.24]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:NN_CK       1917.00   14.197 No_date   34:00   36.74 .415      .000
       [CN= 66.0: N= 3.00: Tp= 5.29]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0100:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_10       5666.00   36.560 No_date   37:30   42.46 .479      .000
       [CN= 72.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0100:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:KG_CK       8376.00   34.456 No_date   39:30   36.74 .415      .000
       [CN= 66.0: N= 3.00: Tp=11.66]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0100:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_9        1132.00   16.257 No_date   30:30   40.80 .461      .000
       [CN= 70.0: N= 3.00: Tp= 2.51]
       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0100:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:NC_CK       4464.00   17.270 No_date   39:30   33.59 .379      .000
       [CN= 62.0: N= 3.00: Tp=11.32]
       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *  CONTINUOUS NASHYD    30.0 01:SW_8         131.00    3.096 No_date   28:30   34.37 .388      .000
       [CN= 63.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0100:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:HB_DR       3854.00   20.590 No_date   38:00   36.74 .415      .000
       [CN= 66.0: N= 3.00: Tp= 8.42]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0100:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_7        3197.00   16.027 No_date   36:00   29.76 .336      .000
       [CN= 57.0: N= 3.00: Tp= 6.65]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0100:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_6         165.00    1.482 No_date   33:00   37.54 .424      .000
       [CN= 67.0: N= 3.00: Tp= 4.18]
       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0100:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:VG_DR       1332.00   10.635 No_date   35:00   42.46 .479      .000
       [CN= 72.0: N= 3.00: Tp= 5.95]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0100:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *  CONTINUOUS NASHYD    30.0 01:SW_5         224.00    9.294 No_date   28:30   47.59 .537      .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0100:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:FL_CK       4945.00   51.121 No_date   33:00   44.15 .498      .000
       [CN= 74.0: N= 3.00: Tp= 4.45]
       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
       [InterEventTime=  12.00]
R0100:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *  CONTINUOUS NASHYD    30.0 01:SW_5A2        20.00    1.014 No_date   28:30   52.03 .587      .000
       [CN= 81.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0100:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_5A1      1412.00    9.884 No_date   37:30   45.85 .518      .000
       [CN= 75.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
       [InterEventTime=  12.00]
R0100:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_4         585.00   14.684 No_date   29:30   52.03 .587      .000
       [CN= 81.0: N= 3.00: Tp= 1.75]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0100:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:LM_CK       1021.00   19.515 No_date   30:30   51.13 .577      .000
       [CN= 80.0: N= 3.00: Tp= 2.46]
       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
       [InterEventTime=  12.00]
R0100:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
  *  CONTINUOUS NASHYD    30.0 01:SW_2         177.00    7.344 No_date   28:30   47.59 .537      .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0100:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SM_DR       1122.00   17.710 No_date   31:30   52.03 .587      .000
       [CN= 81.0: N= 3.00: Tp= 3.25]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0100:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:MD_DR       2737.00   40.026 No_date   31:00   46.72 .527      .000
       [CN= 76.0: N= 3.00: Tp= 3.03]
       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
       [InterEventTime=  12.00]
R0100:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    30.0 01:SW_1        3176.00   43.079 No_date   32:00   48.46 .547      .000
       [CN= 78.0: N= 3.00: Tp= 3.56]
       [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0100:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:JR_HW       3680.00   21.054 No_date   36:30   35.15  n/a      .000
                     +    30.0 02:SW_13        971.00    8.058 No_date   32:30   32.81  n/a      .000
                  SUM=    30.0 01:S_N13       4651.00   27.020 No_date   35:00   34.66  n/a      .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0100:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N13       4651.00   27.020 No_date   35:00   34.66  n/a      .000
      [RDT=30.00] out<-   30.0 01:N13A        4651.00   22.149 No_date   38:30   34.66  n/a      .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .594:Dmax= 4.138}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0100:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N13A        4651.00   22.149 No_date   38:30   34.66  n/a      .000
                     +    30.0 02:JR_GWM      3074.00    9.983 No_date   39:30   28.27  n/a      .000
                  SUM=    30.0 01:SN13A       7725.00   31.987 No_date   39:30   32.12  n/a      .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0100:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->   30.0 02:SN13A       7725.00   31.987 No_date   39:30   32.12  n/a      .000
                out <=    30.0 01:RES_GM      7725.00    3.938 No_date   63:30   32.12  n/a      .000
      {MxStoUsed=.1767E+03  m3}
#
R0100:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             30.0 01:RES_GM      7725.00    3.938 No_date   63:30   32.12  n/a      .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0100:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:RES_GM      7725.00    3.938 No_date   63:30   32.12  n/a      .000
      [RDT=30.00] out<-   30.0 01:N12         7725.00    3.934 No_date   66:30   32.12  n/a      .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .560:Dmax= 1.558}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0100:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N12         7725.00    3.934 No_date   66:30   32.12  n/a      .000
                     +    30.0 02:JR_ASH      1781.00   19.356 No_date   32:30   42.46  n/a      .000
                  SUM=    30.0 01:S_N12       9506.00   21.410 No_date   32:30   34.06  n/a      .000
R0100:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             30.0 01:S_N12       9506.00   21.410 No_date   32:30   34.06  n/a      .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0100:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   21.410 No_date   32:30   34.06  n/a      .000
      [RDT=30.00] out<-   30.0 01:N11         9506.00   21.115 No_date   33:00   34.06  n/a      .000
       [L/S/n=  972./ .051/.040]
       {Vmax=  .760:Dmax= 3.206}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0100:C00039-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   21.410 No_date   32:30   34.06  n/a      .000
      [RDT=30.00] out<-   30.0 01:Dum11       9506.00   21.111 No_date   32:30   34.06  n/a      .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .774:Dmax= 3.175}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0100:C00040-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:Dum11       9506.00   21.111 No_date   32:30   34.06  n/a      .000
                     +    30.0 02:SW_11        500.00   10.499 No_date   29:00   36.74  n/a      .000
                     +    30.0 02:NN_CK       1917.00   14.197 No_date   34:00   36.74  n/a      .000
                  SUM=    30.0 01:S_N11      11923.00   37.433 No_date   33:00   34.60  n/a      .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0100:C00041-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N11      11923.00   37.433 No_date   33:00   34.60  n/a      .000
      [RDT=30.00] out<-   30.0 01:N10        11923.00   23.312 No_date   39:00   34.60  n/a      .000
       [L/S/n=14028./ .157/.040]
       {Vmax=  .484:Dmax= 1.483}
#
# Addition of Subwatershed 10 to Node 10
#
R0100:C00042-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N10        11923.00   23.312 No_date   39:00   34.60  n/a      .000
                     +    30.0 02:SW_10       5666.00   36.560 No_date   37:30   42.46  n/a      .000
                  SUM=    30.0 01:S_N10      17589.00   59.667 No_date   38:00   37.13  n/a      .000
R0100:C00043-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             30.0 01:S_N10      17589.00   59.667 No_date   38:00   37.13  n/a      .000
       fname :H_SN10
       remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0100:C00044-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:S_N10      17589.00   59.667 No_date   38:00   37.13  n/a      .000
                     +    30.0 02:KG_CK       8376.00   34.456 No_date   39:30   36.74  n/a      .000
                  SUM=    30.0 01:S_N10A     25965.00   93.246 No_date   39:30   37.01  n/a      .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0100:C00045-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N10A     25965.00   93.246 No_date   39:30   37.01  n/a      .000
      [RDT=30.00] out<-   30.0 01:N9         25965.00   91.373 No_date   39:30   37.00  n/a      .000
       [L/S/n= 3982./ .075/.040]
       {Vmax=  .769:Dmax= 2.125}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0100:C00046-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N9         25965.00   91.373 No_date   39:30   37.00  n/a      .000
                     +    30.0 02:SW_9        1132.00   16.257 No_date   30:30   40.80  n/a      .000
                     +    30.0 02:NC_CK       4464.00   17.270 No_date   39:30   33.59  n/a      .000
                  SUM=    30.0 01:S_N9       31561.00  112.264 No_date   39:30   36.66  n/a      .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0100:C00047-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N9       31561.00  112.264 No_date   39:30   36.66  n/a      .000
      [RDT=30.00] out<-   30.0 01:N8         31561.00  106.464 No_date   40:00   36.66  n/a      .000
       [L/S/n= 2269./ .088/.045]
       {Vmax=  .372:Dmax= 1.905}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0100:C00048-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N8         31561.00  106.464 No_date   40:00   36.66  n/a      .000
                     +    30.0 02:SW_8         131.00    3.096 No_date   28:30   34.37  n/a      .000
                     +    30.0 02:HB_DR       3854.00   20.590 No_date   38:00   36.74  n/a      .000
                  SUM=    30.0 01:S_N8       35546.00  126.233 No_date   39:30   36.66  n/a      .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0100:C00049-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:S_N8       35546.00  126.233 No_date   39:30   36.66  n/a      .000
      [RDT=30.00] out<-   30.0 01:N7         35546.00  108.761 No_date   44:30   36.66  n/a      .000
       [L/S/n= 3750./ .053/.070]
       {Vmax=  .236:Dmax= 2.384}
#
# Addition of Subwatershed 7 to Node 7
#
R0100:C00050-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N7         35546.00  108.761 No_date   44:30   36.66  n/a      .000
                     +    30.0 02:SW_7        3197.00   16.027 No_date   36:00   29.76  n/a      .000
                  SUM=    30.0 01:S_N7       38743.00  117.353 No_date   43:30   36.09  n/a      .000
R0100:C00051-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             30.0 01:S_N7       38743.00  117.353 No_date   43:30   36.09  n/a      .000
       fname :H_SN7
       remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0100:C00052-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->   30.0 02:S_N7       38743.00  117.353 No_date   43:30   36.09  n/a      .000
                out <=    30.0 01:RES_RF     38743.00   60.593 No_date   58:30   36.09  n/a      .000
      {MxStoUsed=.5014E+03  m3}
R0100:C00053-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             30.0 01:RES_RF     38743.00   60.593 No_date   58:30   36.09  n/a      .000
       fname :H_ResRF
       remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0100:C00054-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   30.0 02:RES_RF     38743.00   60.593 No_date   58:30   36.09  n/a      .000
      [RDT=30.00] out<-   30.0 01:N6         38743.00   60.336 No_date   60:00   36.09  n/a      .000
       [L/S/n= 3056./ .082/.025]
       {Vmax=  .553:Dmax= 1.353}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0100:C00055-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              30.0 02:N6         38743.00   60.336 No_date   60:00   36.09  n/a      .000
                     +    30.0 02:SW_6         165.00    1.482 No_date   33:00   37.54  n/a      .000
                     +    30.0 02:VG_DR       1332.00   10.635 No_date   35:00   42.46  n/a      .000
                  SUM=    30.0 01:S_N6       40240.01   60.497 No_date   59:30   36.31  n/a      .000
```

```
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0100:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   30.0 02:S_N6         40240.01   60.497 No_date   59:30   36.31  n/a      .000
      [RDT=30.00] out<-    30.0 01:N5           40240.01   60.383 No_date   60:30   36.31  n/a      .000
       [L/S/n= 1852./ .054/.035]
       {Vmax=  .490:Dmax= 1.451}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0100:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N5           40240.01   60.383 No_date   60:30   36.31  n/a      .000
                       +   30.0 02:SW_5           224.00    9.294 No_date   28:30   47.59  n/a      .000
                       +   30.0 02:FL_CK         4945.00   51.121 No_date   33:00   44.15  n/a      .000
                    SUM=   30.0 01:S_N5         45409.01   79.891 No_date   34:00   37.22  n/a      .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0100:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   30.0 02:S_N5         45409.01   79.891 No_date   34:00   37.22  n/a      .000
      [RDT=30.00] out<-    30.0 01:N5A          45409.01   79.815 No_date   34:00   37.22  n/a      .000
       [L/S/n=  556./ .090/.040]
       {Vmax=  .544:Dmax= 1.346}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0100:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N5A          45409.01   79.815 No_date   34:00   37.22  n/a      .000
                       +   30.0 02:SW_5A2          20.00    1.014 No_date   28:30   52.03  n/a      .000
                       +   30.0 02:SW_5A1        1412.00    9.884 No_date   37:30   45.85  n/a      .000
                    SUM=   30.0 01:S_N5A        46841.01   88.619 No_date   34:30   37.48  n/a      .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0100:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   30.0 02:S_N5A        46841.01   88.619 No_date   34:30   37.48  n/a      .000
      [RDT=30.00] out<-    30.0 01:N4           46841.01   84.955 No_date   36:00   37.48  n/a      .000
       [L/S/n= 4630./ .043/.035]
       {Vmax=  .901:Dmax= 3.849}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0100:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N4           46841.01   84.955 No_date   36:00   37.48  n/a      .000
                       +   30.0 02:SW_4           585.00   14.684 No_date   29:30   52.03  n/a      .000
                       +   30.0 02:LM_CK         1021.00   19.515 No_date   30:30   51.13  n/a      .000
                    SUM=   30.0 01:S_N4         48447.00   95.694 No_date   34:30   37.95  n/a      .000
R0100:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N4         48447.00   95.694 No_date   34:30   37.95  n/a      .000
       fname :S_N4.0100
       remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0100:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   30.0 02:S_N4         48447.00   95.694 No_date   34:30   37.95  n/a      .000
      [RDT=30.00] out<-    30.0 01:N2           48447.00   95.342 No_date   35:00   37.95  n/a      .000
       [L/S/n= 1667./ .060/.040]
       {Vmax=  .942:Dmax= 3.915}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0100:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N2           48447.00   95.342 No_date   35:00   37.95  n/a      .000
                       +   30.0 02:SW_2           177.00    7.344 No_date   28:30   47.59  n/a      .000
                       +   30.0 02:SM_DR         1122.00   17.710 No_date   31:30   52.03  n/a      .000
                       +   30.0 02:MO_DR         2737.00   40.026 No_date   31:00   46.72  n/a      .000
                    SUM=   30.0 01:S_N2         52483.00  141.415 No_date   32:30   38.74  n/a      .000
R0100:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:S_N2         52483.00  141.415 No_date   32:30   38.74  n/a      .000
       fname :H_SN2
       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
R0100:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   30.0 02:S_N2         52483.00  141.415 No_date   32:30   38.74  n/a      .000
      [RDT=30.00] out<-    30.0 01:N1           52483.00  124.304 No_date   35:00   38.74  n/a      .000
       [L/S/n=10046./ .050/.040]
       {Vmax= 1.091:Dmax= 4.553}
#
# Addition of Subwatershed 1 to Node 1
#
R0100:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               30.0 02:N1           52483.00  124.304 No_date   35:00   38.74  n/a      .000
                       +   30.0 02:SW_1          3176.00   43.079 No_date   32:00   48.46  n/a      .000
                    SUM=   30.0 01:N1           55659.00  158.420 No_date   34:00   39.29  n/a      .000
R0100:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              30.0 01:N1           55659.00  158.420 No_date   34:00   39.29  n/a      .000
       fname :N1.0100
       remark:total outflow of Jock River
##############################################################################
R0100:C00002-------------------------------------------------------------------------------------------
     FINISH
-------------------------------------------------------------------------------------------------------
*******************************************************************************************************
      WARNINGS / ERRORS / NOTES
      -------------------------
R0002:C00015   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0002:C00020   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0002:C00022   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0002:C00026   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0005:C00015   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0005:C00020   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0005:C00022   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0005:C00026   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0010:C00015   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0010:C00020   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0010:C00022   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0010:C00026   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0025:C00015   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0025:C00020   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0025:C00022   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0025:C00026   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0050:C00015   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0050:C00020   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0050:C00022   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0050:C00026   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0100:C00015   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0100:C00020   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0100:C00022   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
R0100:C00026   CONTINUOUS NASHYD
*** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
    Simulation ended on 2021-02-22     at 15:43:22
=======================================================================================================
```

JFSA
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Attachment B

Model 2 – Jock River Reach One Model

Stantec, 2007

SWMHYMO Input & Summary files

```
2    Metric units
*#****************************************************************************
*#  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
*#  Date          : October 2006
*#  Modeller      : [Navin Gautam/ Original by Ana M Paerez]
*#  Company       : Stantec.
*#  License #     :  3824306
*#****************************************************************************
START                  TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[002]
*%                      ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*#-----------------|----------------------------------------------------------|
READ STORM             STORM_FILENAME=["storm.001"]
*%-----------------|----------------------------------------------------------|
MODIFY STORM           ICASEms=[1],   NSHIFT=[96],
                       RedFACT=[1],
*%-----------------|----------------------------------------------------------|
DEFAULT VALUES         ICASEdv=[1],  read and print values
                       DEFVAL_FILENAME=["MODIFIED.VAL"]
COMPUTE API            APII=[50],  APIK=[.85]/day
*#****************************************************************************
*#
*#            JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
*#                   PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
*#
*# Version: Draft Final Report, October 2006
*# Revision History
*# -Draft Interim Condition Report, Nov. 2005
*#****************************************************************************
*# Assumptions
*# - All catchments are assumed to be developed except S-1, S-2, and SW-1a
*# - SWM facilities are modeled
*# - Rating curves were estimated based on existing reports and modeling for the
*#   proposed SWM facilities
*# - The rating curve for the existing Kennedy Burnett SWM Facility was obtained from
*#   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- Regional
*#   Municipality of Ottawa Carleton, March 1983
*# - River routing modeled
*# - River cross sections obtained from RVCA's HEC-RAS hydraulic model
*#-----------------|----------------------------------------------------------|
*# Parameters
*# - Design Storms: 2,5,10,25,50 &100yr events: 24hr SCS (DT=10min)-model comparison
*# - Impervious area weighted based on: rural subdivision @20%, urban @55%
*# - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
*# - Time to peak using Uplands Method
*#-----------------|----------------------------------------------------------|
*#****************************************************************************
*#Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
*#****************************************************************************
READ HYD               ID=[ 1 ],   NHYD=["S_N2"],
                       HYD_FILENAME=["H-S_N2"]
*%-----------------|----------------------------------------------------------|
*#
*# Hydrograph from Node 2 routed to Node 416
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
*#
ROUTE CHANNEL          IDout=[4], NHYD=["N_416"] ,IDin=[1] ,
                       RDT=[10](min),
                       CHLGTH=[2327](m),   CHSLOPE=[0.0498](%),
                                           FPSLOPE=[0.0498](%),
                       SECNUM=[1.0],       NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.075,-23.96
                         -0.055,23.96
                         0.075,157.38]   NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                       [-336.97,93.5]
```

```
                           [-318.85,93]
                           [-259,92.5]
                           [-133.18,92]
                           [-33.17,92]
                           [-27.21,92]
                           [-26.14,91.5]
                           [-24.99,91]
                           [-23.96,90.5]
                           [-14.33,88.26]
                           [-0.68,88.12]
                           [14.33,88.26]
                           [23.96,90.5]
                           [32.12,91]
                           [43.74,91.5]
                           [57.09,92]
                           [73.53,92.5]
                           [108.27,93]
                           [125.88,93.5]
                           [144.81,94]
                           [157.38,94.5]
*%-----------------|------------------------------------------------------------|
*#******************************************************************************
*#     Catchment SW-1a
*#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
*#     - Undeveloped agricultural land
*#******************************************************************************
CONTINUOUS NASHYD          ID=[2], NHYD=["SW_1a"], DT=[5]min, AREA=[546](ha),
                           DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                           N=[3], TP=[2.79]hrs,
                           Continuous simulation parameters:
                           IaRECper=[4](hrs),
                           SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                           InterEventTime=[12](hrs)
                           Baseflow simulation parameters:
                           BaseFlowOption=[1] ,
                           InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                           VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
ADD HYD                    IDsum=[ 3 ], NHYD=["SN_416"], IDs to add=[4,2]
*%-----------------|------------------------------------------------------------|
SAVE HYD                   ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                           HYD_COMMENT=["Total Flows at Highway 416"]
*%-----------------|------------------------------------------------------------|
*#
*# Hydrograph from Node 416 routed to Node at Okeefe drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
*#
ROUTE CHANNEL              IDout=[1], NHYD=["N_OK"] ,IDin=[3] ,
                           RDT=[5](min),
                           CHLGTH=[497](m),  CHSLOPE=[0.3018](%),
                                                FPSLOPE=[0.3018](%),
                           SECNUM=[1.0],        NSEG=[3]
                           ( SEGROUGH, SEGDIST (m))=
                             [0.075,-19.40
                             -0.055,19.40
                             0.075,377.02] NSEG times
                           ( DISTANCE (m), ELEVATION (m))=
                           [-1062.81, 93.00]
                           [-1061.41, 92.50]
                           [-945.91, 92.00]
                           [-783.64, 91.50]
                           [-136.74, 91.00]
                           [-134.06, 91.00]
                           [-128.97, 91.00]
                           [-86.04, 91.00]
                           [-20.86, 91.00]
```

```
                        [-20.18, 90.50]
                        [-19.40, 90.00]
                        [-11.68, 86.89]
                        [0.00, 86.10]
                        [12.09, 86.81]
                        [19.40, 90.00]
                        [34.68, 90.50]
                        [60.56, 91.00]
                        [170.14, 91.00]
                        [175.05, 90.50]
                        [180.29, 90.00]
                        [193.41, 90.00]
                        [195.98, 90.50]
                        [377.02, 92.50]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment OKEEFE
*#    - To O'Keefe drain (north of the Jock)
*#    - Developed with assumed 43% imp.
*#*****************************************************************************
CONTINUOUS STANDHYD     ID=[2], NHYD=["OKEEFE"], DT=[5](min), AREA=[448](ha),
                        XIMP=[0.43], TIMP=[0.43], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[77],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                                LGI=[1728](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),   END=-1

*#*****************************************************************************
*#    Okeefe Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#    and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*****************************************************************************
ROUTE RESERVOIR         IDout=[4],   NHYD=["P_OKE"],  IDin=[2],
                        RDT=[5](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [    0.0 ,   0.0 ]
                                        [    0.20 ,  1.72]
                                        [    -1   ,  -1  ]  (max twenty pts)
                        IDovf=[9], NHYDovf=["ok-OVF"]

*%-----------------|-------------------------------------------------------------|
ADD HYD                 IDsum=[ 3 ], NHYD=["SN_OK"], IDs to add=[1,4,9]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Okeefe Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Okeefe routed to Node at Foster Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
*#
ROUTE CHANNEL           IDout=[1], NHYD=["N_FO"] ,IDin=[3] ,
                        RDT=[5](min),
                        CHLGTH=[1183](m),  CHSLOPE=[0.0761](%),
                                           FPSLOPE=[0.0761](%),
                        SECNUM=[1.0],        NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.050,-33.89
                          -0.035,31.59
                          0.050,854.54] NSEG times
```

```
                        ( DISTANCE (m), ELEVATION (m))=
                        [-1075.50, 93.00]
                        [-1070.59, 92.50]
                        [-1003.21, 92.00]
                        [-1001.67, 92.00]
                        [-986.64, 92.00]
                        [-816.61, 91.50]
                        [-797.29, 91.00]
                        [-794.18, 91.00]
                        [-775.41, 91.50]
                        [-702.63, 91.50]
                        [-546.19, 91.50]
                        [-529.54, 91.50]
                        [-323.44, 91.00]
                        [-320.71, 91.00]
                        [-183.59, 91.00]
                        [-182.54, 90.50]
                        [-181.36, 90.00]
                        [-177.37, 90.00]
                        [-87.70, 90.00]
                        [-33.89, 90.00]
                        [-18.52, 86.88]
                        [0.00,85.20]
                        [16.20, 86.83]
                        [31.59, 90.00]
                        [33.03, 90.50]
                        [34.41, 91.00]
                        [34.99, 91.00]
                        [72.19, 91.00]
                        [208.76, 91.50]
                        [846.25, 92.00]
                        [854.54, 94.00]
*%-----------------|----------------------------------------------------------|
*#***************************************************************************
*#    Catchment FOSTER
*#    - To Foster ditch (north of the Jock)
*#    - Partially developed (medium density); remaining agricultural
*#***************************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["FOSTER"], DT=[5]min, AREA=[373](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[1577](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1

*#***************************************************************************
*#    Foster Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#    and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#***************************************************************************
ROUTE RESERVOIR     IDout=[4],   NHYD=["P_FOS"],  IDin=[2],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,  0.0 ]
                                    [   0.20 , 1.72]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["FO-OVF"]
*%-----------------|----------------------------------------------------------|
ADD HYD             IDsum=[ 3 ], NHYD=["SN_FO"], IDs to add=[1,4,9]
```

```
*%-----------------|-------------------------------------------------------------|
SAVE HYD             ID=[ 3 ],    # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Foster routed to Node at Cedarview Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
*#
ROUTE CHANNEL        IDout=[1], NHYD=["N_CE"] ,IDin=[3] ,
                     RDT=[5](min),
                     CHLGTH=[159](m),   CHSLOPE=[0.0818](%),
                                         FPSLOPE=[0.0818](%),
                     SECNUM=[1.0],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.050,-15.46
                       -0.035,26.55
                       0.050,1299.52] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                     [-891.38, 93.00]
                     [-882.49, 93.00]
                     [-880.92, 92.50]
                     [-879.37, 92.00]
                     [-877.72, 91.50]
                     [-876.10, 91.00]
                     [-873.23, 91.00]
                     [-871.82, 91.50]
                     [-870.40, 92.00]
                     [-803.44, 92.00]
                     [-645.23, 91.50]
                     [-391.20, 91.50]
                     [-91.00, 91.50]
                     [-85.52, 91.50]
                     [-15.46, 89.40]
                     [-9.79, 89.31]
                     [-3.22, 86.24]
                     [3.22, 85.07]
                     [10.96, 85.79]
                     [16.44, 86.49]
                     [26.55, 89.45]
                     [29.03, 90.27]
                     [35.76, 90.67]
                     [36.67, 91.00]
                     [108.08, 91.00]
                     [109.82, 90.50]
                     [112.04, 90.50]
                     [114.62, 91.00]
                     [116.76, 91.50]
                     [118.42, 92.00]
                     [449.53, 92.50]
                     [571.98, 92.50]
                     [1093.81, 93.50]
                     [1150.48, 94.00]
                     [1299.52, 95.00]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment S-1
*#    - To Jock River (north and south of Jock)
*#    - Primarily agricultural fields; portion of sand quarry
*#*****************************************************************************
CONTINUOUS NASHYD    ID=[2], NHYD=["S-1"], DT=[5]min, AREA=[245](ha),
                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                     N=[3], TP=[1.10]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
```

```
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1

*%-----------------|-------------------------------------------------------------|
ADD HYD                   IDsum=[ 3 ], NHYD=["SN_CE"], IDs to add=[1,2]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                  ID=[ 3 ],    # OF PCYCLES=[-1],  ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at Cedarview Road"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
*#
ROUTE CHANNEL             IDout=[1], NHYD=["N_WC"] ,IDin=[3] ,
                          RDT=[5](min),
                          CHLGTH=[825](m),   CHSLOPE=[0.01](%),
                                               FPSLOPE=[0.01](%),
                          SECNUM=[1.0],        NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=
                            [0.050,-37.5
                            -0.035,37.50
                            0.050,1367.08] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                          [-1095.18, 94.00]
                          [-1091.79, 93.50]
                          [-1088.95, 93.00]
                          [-1086.77, 93.00]
                          [-1069.38, 93.00]
                          [-1063.14, 93.00]
                          [-1017.52, 93.00]
                          [-899.70, 93.00]
                          [-877.78, 93.00]
                          [-859.62, 92.50]
                          [-803.18, 93.00]
                          [-789.92, 92.00]
                          [-37.50, 90.00]
                          [-19.61, 87.04]
                          [0.00, 85.70]
                          [14.87, 86.93]
                          [37.50, 90.00]
                          [38.54, 90.50]
                          [42.23, 91]
                          [157.05,91.50]
                          [161.44, 91.50]
                          [236.48, 93.00]
                          [385.47, 92.50]
                          [390.78, 92.50]
                          [863.80, 93.00]
                          [866.13, 93.00]
                          [990.85, 92.50]
                          [991.82, 92.50]
                          [993.04, 93.00]
                          [994.81, 93.50]
                          [1005.36, 93.00]
                          [1190.52, 93.00]
                          [1267.97, 93.50]
                          [1318.99, 94.00]
                          [1367.08, 94.50]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment W_CLAR
*#    - To West Clarke Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#*****************************************************************************
```

```
CONTINUOUS STANDHYD ID=[2], NHYD=["W_CLAR"], DT=[5]min, AREA=[243](ha),
                    XIMP=[0.43], TIMP=[0.43], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[1273](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1

*%-----------------|------------------------------------------------------------|
*#****************************************************************************
*#     West Clarke Pond 2
*#     - Rating curve obtained from Barrhaven South MSS modeling
*#     - Tributary Drainage Area to MSS Pond 2 = 241 ha
*#****************************************************************************
ROUTE RESERVOIR     IDout=[8],    NHYD=["MS_P2"],  IDin=[2],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [    0.0 ,   0.0 ]
                                   [    0.11 ,  0.96]
                                   [    -1   ,  -1  ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["P2-OVF"]
*%-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[ 4 ], NHYD=["SN_WC"], IDs to add=[8,9,1]
*%-----------------|------------------------------------------------------------|
SAVE HYD            ID=[4],    # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at West Clarke Pond Outlet"]
*%-----------------|------------------------------------------------------------|
*# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_KB"] ,IDin=[4] ,
                    RDT=[5](min),
                    CHLGTH=[1020](m),  CHSLOPE=[0.0498](%),
                                         FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],        NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-23.63
                      -0.035,23.63
                      0.050,728.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1082.01,94]
                    [-1028.17,92.5]
                    [-992.3,93.5]
                    [-279.34,90]
                    [-23.63,90]
                    [-13.45,87.13]
                    [-0.07,86.24]
                    [10.54,87.15]
                    [23.63,90]
                    [24.86,90.5]
                    [26.72,91]
                    [45.07,91.5]
                    [128.17,91.5]
                    [270.7,92.5]
                    [728.3,95]

*%-----------------|------------------------------------------------------------|
*#****************************************************************************
*#     Catchment KEN_BU
*#     - To Kennedy-Burnett SWM Facility
*#     - Outlets to Fraser-Clarke drain (north of the Jock)
```

```
*#    - Medium density residential subdivision
*#****************************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["KEN_BU"], DT=[5]min, AREA=[281](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[71],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[1369](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
*#****************************************************************************
*#   Existing Kennedy-Burnett SWM Facility
*#    - Rating curve obtained from URTKBP
*#    - Tributary Drainage Area to Pond = 160 ha
*#****************************************************************************
ROUTE RESERVOIR     IDout=[5],    NHYD=["KEN_P"],   IDin=[2],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [    0.0 ,   0.0 ]
                                    [    0.13 ,  0.26]
                                    [    0.43 ,  0.56]
                                    [    0.67 ,  0.90]
                                    [    0.86 ,  1.32]
                                    [    1.01 ,  1.79]
                                    [    1.15 ,  2.33]
                                    [    -1   ,  -1  ]  (max twenty pts)
                          IDovf=[6], NHYDovf=["KEN-OV"]
*%-----------------|-----------------------------------------------------------|
*#****************************************************************************
*#    Catchment FRASER
*#    - To Fraser-Clarke drain (north of the Jock)
*#    - Developed land with assumed 43% imp.
*#****************************************************************************
CONTINUOUS STANDHYD ID=[7], NHYD=["FRASER"], DT=[5]min, AREA=[90](ha),
                    XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[80],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[775](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1

*%-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR     IDout=[8],    NHYD=["MS_P2"],   IDin=[7],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [    0.0 ,   0.0 ]
                                    [    0.04 ,  0.36]
                                    [    -1   ,  -1  ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["P2-OVF"]
*%-----------------|-----------------------------------------------------------|
ADD HYD             IDsum=[ 4 ], NHYD=["SN_KB"], IDs to add=[5,6,8,9,1]
*%-----------------|-----------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[-1],   ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Ken-Burnett Outlet"]
*%-----------------|-----------------------------------------------------------|
*# Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
```

```
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
*#
ROUTE CHANNEL         IDout=[1], NHYD=["N_TO"] ,IDin=[4] ,
                      RDT=[5](min),
                      CHLGTH=[650](m),   CHSLOPE=[0.0498](%),
                                         FPSLOPE=[0.0498](%),
                      SECNUM=[1.0],      NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.050,-23.74
                        -0.035,23.74
                        0.050,74.7] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                      [-74.18, 92.5]
                      [-65.96, 92]
                      [-54.17, 91.5]
                      [-29.24, 91]
                      [-27.41, 90.5]
                      [-25.64, 90]
                      [-23.74, 89.5]
                      [-22,89. 26]
                      [-20, 88.51]
                      [-19, 88.32]
                      [-15, 88.1]
                      [-10, 88.11]
                      [-5, 88.17]
                      [0, 88.27]
                      [5, 88.19]
                      [10, 88.06]
                      [15, 88.48]
                      [16, 88.7]
                      [23.74, 89.5]
                      [24.68, 90]
                      [25.57, 90.5]
                      [26.5, 91]
                      [47.55, 91]
                      [74.7, 92.5]
*%----------------|-------------------------------------------------------------|

*#*****************************************************************************
*#    Catchment TODD
*#    - To Todd Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#*****************************************************************************
CONTINUOUS STANDHYD ID=[3], NHYD=["TODD"], DT=[5]min, AREA=[195](ha),
                      XIMP=[0.43], TIMP=[0.43], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[77],
                      Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[1140](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[18](hrs),    END=-1

*#*****************************************************************************
*#    Todd Pond 3
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 3 = 193 ha
*#*****************************************************************************
ROUTE RESERVOIR       IDout=[2],   NHYD=["MS_P3"],   IDin=[3],
                      RDT=[5](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [    0.0 ,   0.0 ]
                                      [    0.08 ,  0.78]
```

```
                                  [     -1   ,   -1   ]   (max twenty pts)
                            IDovf=[9],  NHYDovf=["P3-OVF"]
*%-----------------|------------------------------------------------------------|
ADD HYD             IDsum=[10], NHYD=["SN_TO"], IDs to add=[1,2,9]
*%-----------------|------------------------------------------------------------|
SAVE HYD            ID=[ 10 ],    # OF PCYCLES=[-1],   ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|------------------------------------------------------------
*#
*# Hydrograph from Todd Drain routed to Corrigan Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_TO"] ,IDin=[10] ,
                    RDT=[5](min),
                    CHLGTH=[280](m),   CHSLOPE=[0.033](%),
                                       FPSLOPE=[0.033](%),
                    SECNUM=[1.0],         NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.72
                      -0.045,17.72
                      0.075,80.62] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-83.32, 90.00]
                    [-81.36, 89.50]
                    [-79.12, 89.00]
                    [-76.13, 88.50]
                    [-20.46, 88.00]
                    [-19.36, 87.50]
                    [-18.51, 87.00]
                    [-17.72, 86.50]
                    [-11.95, 85.24]
                    [-0.11, 85.12]
                    [11.49, 85.20]
                    [17.72, 86.50]
                    [19.74, 87.00]
                    [21.22, 87.50]
                    [22.68, 88.00]
                    [24.28, 88.50]
                    [26.79, 89.00]
                    [71.98, 90.00]
                    [80.62, 90.50]
*%-----------------|------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment CORRIG
*#     - To Corrigan Drain (south of the Jock)
*#     - Primarily Developed (medium density)
*#*****************************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["CORRIG"], DT=[5]min, AREA=[149](ha),
                    XIMP=[0.45], TIMP=[0.45], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[997](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1

*%-----------------|------------------------------------------------------------|
*#*****************************************************************************
*#     Corrigan Pond 1
*#     - Rating curve obtained from Barrhaven South MSS modeling
*#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
*#*****************************************************************************
ROUTE RESERVOIR     IDout=[5],    NHYD=["MS_P1"],   IDin=[2],
```

```
                        RDT=[5](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [    0.0 ,   0.0 ]
                                       [    0.06 ,  0.58]
                                       [    -1   ,  -1  ]  (max twenty pts)
                              IDovf=[4], NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                 IDsum=[ 3 ], NHYD=["SN_CO"], IDs to add=[1,4,5]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Corrigan Drain routed to Jockvale Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL           IDout=[1], NHYD=["N_MI"] ,IDin=[3] ,
                        RDT=[5](min),
                        CHLGTH=[580](m),   CHSLOPE=[0.4448](%),
                                           FPSLOPE=[0.4448](%),
                        SECNUM=[1.0],      NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.075,-17.72
                          -0.045,17.72
                          0.075,80.62] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                        [-83.32, 90.00]
                        [-81.36, 89.50]
                        [-79.12, 89.00]
                        [-76.13, 88.50]
                        [-20.46, 88.00]
                        [-19.36, 87.50]
                        [-18.51, 87.00]
                        [-17.72, 86.50]
                        [-11.95, 85.24]
                        [-0.11, 85.12]
                        [11.49, 85.20]
                        [17.72, 86.50]
                        [19.74, 87.00]
                        [21.22, 87.50]
                        [22.68, 88.00]
                        [24.28, 88.50]
                        [26.79, 89.00]
                        [71.98, 90.00]
                        [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
*#*******************************************************************************
*#    Catchment MILLS
*#    - To SWM Facility north of the Jock
*#    - Primarily residential development
*#*******************************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["MILLS"], DT=[5]min, AREA=[139](ha),
                        XIMP=[0.38], TIMP=[0.38], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[74],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[963](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),   END=-1

*%-----------------|-------------------------------------------------------------|
*#*******************************************************************************
```

```
*#     Chapman Mills SWM Pond
*#     - Rating curve obtained from CCL hydraulic modeling
*#**************************************************************************
ROUTE RESERVOIR          IDout=[5],    NHYD=["MILL_P"],   IDin=[2],
                         RDT=[5](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                        [     0.0 ,    0.0 ]
                                        [     0.01 ,   0.01]
                                        [     0.05 ,   0.06]
                                        [     0.09 ,   0.11]
                                        [     0.13 ,   0.15]
                                        [     0.18 ,   0.19]
                                        [     0.28 ,   0.28]
                                        [     0.37 ,   0.34]
                                        [     0.45 ,   0.40]
                                        [     0.51 ,   0.44]
                                        [     0.56 ,   0.47]
                                        [     0.64 ,   0.52]
                                        [     0.76 ,   0.59]
                                        [     0.86 ,   0.65]
                                        [     1.09 ,   0.78]
                                        [     1.44 ,   0.96]
                                        [     3.18 ,   1.84]
                                        [     4.05 ,   2.31]
                                        [     -1   ,   -1  ]  (max twenty pts)
                               IDovf=[4], NHYDovf=["MIL-OV"]
*%-----------------|------------------------------------------------------------|
ADD HYD                  IDsum=[ 3 ], NHYD=["SN_MI"], IDs to add=[1,4,5]
*%-----------------|------------------------------------------------------------|
SAVE HYD                 ID=[ 3 ],    # OF PCYCLES=[-1],   ICASEsh=[1]
                         HYD_COMMENT=["Total Flows at Jockvale Road"]
*%-----------------|------------------------------------------------------------|
*#
*# Hydrograph from Jockvale Road routed to Heart's Desire
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
*#
ROUTE CHANNEL            IDout=[1], NHYD=["N_DE"] ,IDin=[3] ,
                         RDT=[5](min),
                         CHLGTH=[1962](m),   CHSLOPE=[0.2227](%),
                                             FPSLOPE=[0.2227](%),
                         SECNUM=[1.0],          NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=
                           [0.075,-17.56
                           -0.045,18.27
                           0.075,67.59] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=
                         [-111.59, 88.00]
                         [-102.58, 87.50]
                         [-96.20, 87.00]
                         [-90.04, 86.50]
                         [-84.02, 86.00]
                         [-77.54, 85.50]
                         [-54.07, 85.00]
                         [-39.43, 84.50]
                         [-28.30, 84.00]
                         [-24.12, 83.50]
                         [-22.30, 83.00]
                         [-20.55, 82.50]
                         [-17.56, 82.00]
                         [-12.63, 81.22]
                         [-0.11, 80.75]
                         [11.55, 81.22]
                         [18.27, 82.00]
                         [19.82, 82.50]
                         [22.48, 83.00]
```

```
                        [27.90, 83.50]
                        [29.31, 84.00]
                        [30.81, 84.50]
                        [32.51, 85.00]
                        [34.24, 85.50]
                        [36.34, 86.00]
                        [41.65, 86.50]
                        [62.64, 87.00]
                        [65.14, 87.50]
                        [67.59, 88.00]
*%-----------------|------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment DESIRE
*#    - To Jock River (north of the Jock)
*#    - Rural-estate subdivision (Heart's Desire Community)
*#*****************************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["DESIRE"], DT=[5]min, AREA=[24](ha),
                        XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[77],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[400](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),   END=-1

*%-----------------|------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment JOCKVA
*#    - To Jockvale SWM Facility
*#    - Residential development & golf course
*#*****************************************************************************
CONTINUOUS STANDHYD ID=[3], NHYD=["JOCKVA"], DT=[5]min, AREA=[252](ha),
                        XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[74],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[1296](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),   END=-1

*%-----------------|------------------------------------------------------------|
*#*****************************************************************************
*#    Jockvale SWM Facility
*#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
*#*****************************************************************************
ROUTE RESERVOIR         IDout=[5],   NHYD=["JOCK_P"],  IDin=[3],
                        RDT=[5](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [    0.0 ,   0.0 ]
                                     [    0.27 ,  0.03]
                                     [    0.28 ,  0.55]
                                     [    0.29 ,  1.14]
                                     [    0.30 ,  1.80]
                                     [    0.31 ,  2.32]
                                     [    1.12 ,  2.87]
                                     [    2.92 ,  3.45]
                                     [    4.64 ,  4.07]
                                     [    6.69 ,  4.72]
                                     [    9.02 ,  5.39]
```

```
                                [    11.62 ,  6.10]
                                [    14.42 ,  6.85]
                                [    17.45 ,  7.62]
                                [    20.69 ,  8.44]
                                [    24.08 ,  9.28]
                                [    27.68 ,  10.17]
                                [    -1   ,   -1  ]  (max twenty pts)
                      IDovf=[4], NHYDovf=["JO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD              IDsum=[ 3 ], NHYD=["SN_DE"], IDs to add=[1,2,4,5]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             ID=[ 3 ],    # OF PCYCLES=[-1],   ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at Heart's Desire"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Heart's Desire routed to Rideau River
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
*#
ROUTE CHANNEL        IDout=[1], NHYD=["N1"] ,IDin=[3] ,
                     RDT=[5](min),
                     CHLGTH=[563](m),   CHSLOPE=[0.9668](%),
                                          FPSLOPE=[0.9668](%),
                     SECNUM=[1.0],        NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.075,-30.20
                       -0.045,30.20
                       0.075,168.81] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                     [-170.17, 86.00]
                     [-164.75, 85.50]
                     [-158.08, 85.00]
                     [-113.12, 82.00]
                     [-98.46, 81.50]
                     [-92.24, 81.00]
                     [-86.88, 80.50]
                     [-81.54, 80.00]
                     [-74.36, 79.50]
                     [-63.54, 79.00]
                     [-39.23, 78.50]
                     [-34.51, 78.00]
                     [-33.01, 77.50]
                     [-30.20, 77.00]
                     [-13.42, 76.18]
                     [-1.14, 76.09]
                     [17.06, 76.18]
                     [30.20, 77.00]
                     [32.95, 77.50]
                     [34.06, 78.00]
                     [35.11, 78.50]
                     [36.32, 79.00]
                     [37.74, 79.50]
                     [48.48, 81.50]
                     [49.25, 82.00]
                     [55.61, 84.50]
                     [57.09, 85.00]
                     [59.51, 85.50]
                     [64.34, 86.00]
                     [66.30, 86.00]
                     [76.71, 86.50]
                     [101.83, 86.50]
                     [119.73, 87.00]
                     [142.04, 87.50]
                     [168.81, 88.00]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment S-2
```

```
*#     - To Jock River (north and south)
*#     - Undeveloped floodplain and river
*#*****************************************************************************
CONTINUOUS NASHYD    ID=[2], NHYD=["S-2"], DT=[5]min, AREA=[102](ha),
                     DWF=[0](cms), CN/C=[72],   IA=[4.67](mm),
                     N=[3], TP=[0.40]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),    END=-1

*%-----------------|-----------------------------------------------------------|
ADD HYD              IDsum=[ 3 ], NHYD=["SN_N1"], IDs to add=[1,2]
*%-----------------|-----------------------------------------------------------|
SAVE HYD             ID=[ 3 ],   # OF PCYCLES=[-1],   ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at Rideau River"]
*%-----------------|-----------------------------------------------------------|
*% 5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[005]
*%                    ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*% 10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
*%START               TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[010]
*%                    ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*% 25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[025]
*%                    ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*% 50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
*%START               TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[050]
*%                    ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*% 100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[100]
*%                    ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|

*#############################################################################
FINISH
```

```
===========================================================================
 SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO        999    999  =========
 S      WWW  MM MM  H   H   Y Y   MM MM  O   O      9   9  9   9
 SSSSS  WWW  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9  Ver5 Beta
     S   WW   M   M  H   H    Y    M   M  O   O      9999   9999  Sept 2000
 SSSSS   WW   M   M  H   H    Y    M   M   OOO           9      9  =========
                                                    9   9  9   9  # 3783815
      StormWater Management HYdrologic Model         999    999  =========
 **************************************************************************
 **************************** SWMHYMO Ver/5 Beta ***************************
 *******  A single event and continuous hydrologic simulation model  *******
 *******     based on the principles of HYMO and its successors      *******
 *******                OTTHYMO-83 and OTTHYMO-89.                   *******
 **************************************************************************
 ******* Distributed by:  J.F. Sabourin and Associates Inc.          *******
 *******                 Ottawa, Ontario: (613) 727-5199             *******
 *******                 Gatineau, Quebec: (819) 243-6858            *******
 *******                 E-Mail: swmhymo@jfsa.Com                    *******
 **************************************************************************
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++ Licensed user: Stantec - Ottawa - 604                      +++++++
 +++++++                Ottawa              SERIAL#:3783815         +++++++
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 **************************************************************************
 *******             ++++++ PROGRAM ARRAY DIMENSIONS ++++++          *******
 *******             Maximum value for ID numbers   :     10         *******
 *******             Max. number of rainfall points:  52750          *******
 *******             Max. number of flow points     :  52750         *******
 **************************************************************************
 *** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) ***
 ***--------------------------------------------------------------------***
 ***     ID:  Hydrograph IDentification numbers, (1-10).                ***
 ***   NHYD:  Hydrograph reference numbers, (6 digits or characters).   ***
 ***   AREA:  Drainage area associated with hydrograph, (ac.) or (ha.). ***
 *** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).    ***
 *** TpeakDate_hh:mm is the date and time of the peak flow.             ***
 ***   R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).      ***
 ***   R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).      ***
 ***      *:  see WARNING or NOTE message printed at end of run.        ***
 ***     **:  see  ERROR  message printed at end of run.                ***
 **************************************************************************
 **************************************************************************
::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
 **************************************************************************
 ********************   S U M M A R Y   O U T P U T   ********************
 **************************************************************************
 *      DATE: 2006-11-15      TIME: 14:33:15      RUN COUNTER: 000132      *
 **************************************************************************
 * Input   filename: C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\SMR_POST.dat      *
 * Output  filename: C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\SMR_POST.out      *
 * Summary filename: C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\SMR_POST.sum      *
 * User comments:                                                         *
 * 1:_____________________________________________________________________*
 * 2:_____________________________________________________________________*
 * 3:_____________________________________________________________________*
 **************************************************************************
#***************************************************************************
#  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
#  Date         : October 2006
#  Modeller     : [Navin Gautam/ Original by Ana M Paerez]
#  Company      : Stantec.
#  License #    :  3824306
#***************************************************************************
  ** END OF RUN :    1
****************************************************************************
 RUN:COMMAND#
 002:0001------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2   (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   2 ]
#***************************************************************************
#  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
#  Date         : October 2006
#  Modeller     : [Navin Gautam/ Original by Ana M Paerez]
#  Company      : Stantec.
#  License #    :  3824306
#***************************************************************************
#----------------|----------------------------------------------------------|
 002:0002-------------------------------------------------------------------
     READ STORM
      Filename = storm 001
      Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
 002:0003-------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
 002:0004-------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\MODIFIED.VAL
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [2005 City of Ottawa Sewer Design Guideline]
                 PARAMETERS USED IN THE DESIGN STANDHYD COMMAND FOR OTTAWA.
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   2.50 mm] [N= 3.00]
 002:0005-------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
      {APImax= 80.12:  APIavg= 56.74:  APImin= 44.87}
#***************************************************************************
#
#              JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
#                    PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
#
# Version: Draft Final Report, October 2006
# Revision History
# -Draft Interim Condition Report, Nov. 2005
#***************************************************************************
# Assumptions
# - All catchments are assumed to be developed except S-1, S-2, and SW-1a
# - SWM facilities are modeled
# - Rating curves were estimated based on existing reports and modeling for the
#   proposed SWM facilities
# - The rating curve for the existing Kennedy Burnett SWM Facility was obtained
#   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- R
#   Municipality of Ottawa Carleton, March 1983
# - River routing modeled
# - River cross sections obtained from RVCA's HEC-RAS hydraulic model
#----------------|----------------------------------------------------------|
# Parameters
# - Design Storms: 2,5,10,25,50 &100yr events: 24hr SCS (DT=10min)-model compa
# - Impervious area weighted based on: rural subdivision @20%, urban @55%
# - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
# - Time to peak using Uplands Method
#----------------|----------------------------------------------------------|
#***************************************************************************
#Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
#***************************************************************************
 002:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     READ HYD            01:S_N2    52483.01   45.789 No_date   33:50   12.75  n/a
      Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-S_N2.002
      Comment  = N2
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
 002:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2    52483.01   45.789 No_date   33:50   12.75  n/a
      [RDT=10.00] out<- 04:N_416   52483.01   44.971 No_date   36:30   12.75  n/a
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .575:Dmax= 2.199}
#***************************************************************************
#     Catchment SW-1a
#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#     - Undeveloped agricultural land
#***************************************************************************
 002:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_1a     546.00    1.904 No_date   31:20   13.01 .286
      [CN= 72.0:  N= 3.00]
      [Tp= 2.79:DT= 5.00]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEventTime=  12.00]
 002:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             04:N_416   52483.01   44.971 No_date   36:30   12.75  n/a
                       + 02:SW_1a     546.00    1.904 No_date   31:20   13.01  n/a
      [DT= 5.00]  SUM=  03:SN_416 53029.01   46.118 No_date   34:50   12.75  n/a
 002:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            03:SN_416 53029.01   46.118 No_date   34:50   12.75  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_416.002
      remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
 002:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 03:SN_416 53029.01   46.118 No_date   34:50   12.75  n/a
      [RDT= 5.00] out<- 01:N_OK    53029.01   46.108 No_date   34:45   12.75  n/a
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.185:Dmax= 1.869}
#***************************************************************************
#     Catchment OKEEFE
#     - To O'Keefe drain (north of the Jock)
#     - Developed with assumed 43% imp.
#***************************************************************************
 002:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:OKEEFE    448.00   13.801 No_date   28:15   25.18 .553
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1728.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#***************************************************************************
#     Okeefe Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#   and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#***************************************************************************
 002:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:OKEEFE    448.00   13.801 No_date   28:15   25.18  n/a
      [RDT= 5.00] out<- 04:P_OKE     116.46     .200 No_date   27:45   25.18  n/a
             overflow <= 09:ok-OVF    331.54   13.458 No_date   28:20   25.18  n/a
     {MxStoUsed=.1720E+01, TotOvfVol=.8349E+01, N-Ovf=    2, TotDurOvf=   13.hrs}
 002:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             01:N_OK    53029.01   46.108 No_date   34:45   12.75  n/a
                       + 04:P_OKE     116.46     .200 No_date   27:45   25.18  n/a
                       + 09:ok-OVF    331.54   13.458 No_date   28:20   25.18  n/a
      [DT= 5.00]  SUM=  03:SN_OK   53477.02   46.839 No_date   34:45   12.85  n/a
 002:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            03:SN_OK   53477.02   46.839 No_date   34:45   12.85  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_OK.002
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
 002:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 03:SN_OK   53477.02   46.839 No_date   34:45   12.85  n/a
      [RDT= 5.00] out<- 01:N_FO    53477.02   46.817 No_date   34:50   12.85  n/a
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.826:Dmax=  .010}
#***************************************************************************
#     Catchment FOSTER
#     - To Foster ditch (north of the Jock)
#     - Partially developed (medium density); remaining agricultural
#***************************************************************************
 002:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:FOSTER    373.00   14.534 No_date   28:15   28.56 .628
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1577.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#***************************************************************************
#     Foster Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#   and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#***************************************************************************
 002:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:FOSTER    373.00   14.534 No_date   28:15   28.56  n/a
      [RDT= 5.00] out<- 04:P_FOS     102.35     .200 No_date   27:35   28.56  n/a
             overflow <= 09:FO-OVF    270.65   14.097 No_date   28:20   28.56  n/a
     {MxStoUsed=.1720E+01, TotOvfVol=.7731E+01, N-Ovf=    3, TotDurOvf=   13.hrs}
 002:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             01:N_FO    53477.02   46.817 No_date   34:50   12.85  n/a
                       + 04:P_FOS     102.35     .200 No_date   27:35   28.56  n/a
                       + 09:FO-OVF    270.65   14.097 No_date   28:20   28.56  n/a
      [DT= 5.00]  SUM=  03:SN_FO   53850.02   47.455 No_date   34:50   12.96  n/a
 002:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            03:SN_FO   53850.02   47.455 No_date   34:50   12.96  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_FO.002
      remark:Total Flows at Foster Drain
#
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
 002:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 03:SN_FO   53850.02   47.455 No_date   34:50   12.96  n/a
      [RDT= 5.00] out<- 01:N_CE    53850.02   47.455 No_date   34:50   12.96  n/a
      [L/S/n=  159./ .082/.035]
      {Vmax= 3.197:Dmax=  .002}
#***************************************************************************
#     Catchment S-1
#     - To Jock River (north and south of Jock)
#     - Primarily agricultural fields; portion of sand quarry
#***************************************************************************
 002:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:S-1       245.00    1.962 No_date   29:10   14.83 .326
      [CN= 77.0:  N= 3.00]
      [Tp= 1.10:DT= 5.00]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
 002:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             01:N_CE    53850.02   47.455 No_date   34:50   12.96  n/a
                       + 02:S-1       245.00    1.962 No_date   29:10   14.83  n/a
      [DT= 5.00]  SUM=  03:SN_CE   54095.02   47.809 No_date   34:50   12.97  n/a
 002:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            03:SN_CE   54095.02   47.809 No_date   34:50   12.97  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CE.002
      remark:Total Flows at Cedarview Road
#
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
#
 002:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 03:SN_CE   54095.02   47.809 No_date   34:50   12.97  n/a
      [RDT= 5.00] out<- 01:N_WC    54095.02   47.793 No_date   35:00   12.97  n/a
      [L/S/n=  825./ .010/.035]
      {Vmax= 1.282:Dmax=  .001}
#***************************************************************************
#     Catchment W_CLAR
#     - To West Clarke Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#***************************************************************************
 002:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:W_CLAR    243.00   10.023 No_date   28:05   24.81 .545
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1273.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
#***************************************************************************
#     West Clarke Pond 2
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 2 = 241 ha
#***************************************************************************
 002:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:W_CLAR    243.00   10.023 No_date   28:05   24.81  n/a
      [RDT= 5.00] out<- 08:MS_P2      64.85     .110 No_date   27:35   24.81  n/a
             overflow <= 09:P2-OVF    178.15    9.775 No_date   28:10   24.81  n/a
     {MxStoUsed=.9597E+00, TotOvfVol=.4421E+01, N-Ovf=    2, TotDurOvf=   13.hrs}
 002:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD             08:MS_P2      64.85     .110 No_date   27:35   24.81  n/a
                       + 09:P2-OVF    178.15    9.775 No_date   28:10   24.81  n/a
                       + 01:N_WC    54095.02   47.793 No_date   35:00   12.97  n/a
      [DT= 5.00]  SUM=  04:SN_WC   54338.02   48.170 No_date   35:00   13.02  n/a
 002:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD            04:SN_WC   54338.02   48.170 No_date   35:00   13.02  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_WC.002
      remark:Total Flows at West Clarke Pond Outlet
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
 002:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 04:SN_WC   54338.02   48.170 No_date   35:00   13.02  n/a
      [RDT= 5.00] out<- 01:N_KB    54338.02   48.099 No_date   34:45   13.02  n/a
      [L/S/n= 1020./ .050/.035]
      {Vmax=  .845:Dmax= 2.412}
#***************************************************************************
#     Catchment KEN_BU
#     - To Kennedy-Burnett SWM Facility
#     - Outlets to Fraser-Clarke drain (north of the Jock)
#     - Medium density residential subdivision
#***************************************************************************
 002:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:KEN_BU    281.00   14.015 No_date   28:05   28.17 .619
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 71.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1369.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 41.38:  SMAX=275.84:  SK= .010]
#***************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#     - Rating curve obtained from URTKBP
#     - Tributary Drainage Area to Pond = 160 ha
#***************************************************************************
 002:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:KEN_BU    281.00   14.015 No_date   28:05   28.17  n/a
      [RDT= 5.00] out<- 05:KEN_P     208.79    1.150 No_date   28:10   28.17  n/a
             overflow <= 06:KEN-OV     72.21   12.623 No_date   28:10   28.17  n/a
     {MxStoUsed=.2330E+01, TotOvfVol=.2034E+01, N-Ovf=    4, TotDurOvf=    2.hrs}
#***************************************************************************
#     Catchment FRASER
#     - To Fraser-Clarke drain (north of the Jock)
#     - Developed land with assumed 43% imp.
#***************************************************************************
```

```
 002:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD07:FRASER     90.00     2.860 No_date    28:05    20.31 .446
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 80.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 775.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 26.32:  SMAX=175.50:  SK= .010]
 002:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 07:FRASER     90.00     2.860 No_date    28:05    20.31  n/a
       [RDT= 5.00] out<-  08:MS_P2      28.48      .040 No_date    28:00    20.31  n/a
             overflow <= 09:P2-OVF     61.52     2.795 No_date    28:05    20.31  n/a
      {MxStoUsed=.3600E+00,  TotOvfVol=.1250E+01,  N-Ovf=    2,  TotDurOvf=   13.hrs}
 002:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD              05:KEN_P    208.79     1.150 No_date    28:10    28.17  n/a
                        +  06:KEN-OV    72.21    12.623 No_date    28:10    28.17  n/a
                        +  08:MS_P2     28.48      .040 No_date    28:00    20.31  n/a
                        +  09:P2-OVF    61.52     2.795 No_date    28:05    20.31  n/a
                        +  01:N_KB   54338.02    48.099 No_date    34:45    13.02  n/a
       [DT= 5.00]   SUM=  04:SN_KB   54709.01    49.195 No_date    34:45    13.11  n/a
 002:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD             04:SN_KB   54709.01    49.195 No_date    34:45    13.11  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_KB.002
       remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
#
 002:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 04:SN_KB   54709.01    49.195 No_date    34:45    13.11  n/a
   *   [RDT= 5.00] out<-  01:N_TO    54709.01    49.001 No_date    36:15    13.11  n/a
       [L/S/n=  650./ .050/.035]
       {Vmax=  .281:Dmax=  .999}
#*****************************************************************************
#     Catchment TODD
#     - To Todd Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#*****************************************************************************
 002:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD03:TODD      195.00     8.304 No_date    28:05    25.18 .553
       [XIMP=.43:TIMP=.43]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1140.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#*****************************************************************************
#     Todd Pond 3
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 3 = 193 ha
#*****************************************************************************
 002:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 03:TODD      195.00     8.304 No_date    28:05    25.18  n/a
       [RDT= 5.00] out<-  02:MS_P3      49.78      .080 No_date    27:35    25.18  n/a
             overflow <= 09:P3-OVF    145.22     8.086 No_date    28:10    25.18  n/a
      {MxStoUsed=.7798E+00,  TotOvfVol=.3657E+01,  N-Ovf=    2,  TotDurOvf=   13.hrs}
 002:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD              01:N_TO    54709.01    49.001 No_date    36:15    13.11  n/a
                        +  02:MS_P3      49.78      .080 No_date    27:35    25.18  n/a
                        +  09:P3-OVF    145.22     8.086 No_date    28:10    25.18  n/a
       [DT= 5.00]   SUM=  10:SN_TO   54904.01    49.300 No_date    36:05    13.16  n/a
 002:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD             10:SN_TO   54904.01    49.300 No_date    36:05    13.16  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_TO.002
       remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
 002:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 10:SN_TO   54904.01    49.300 No_date    36:05    13.16  n/a
   *   [RDT= 5.00] out<-  01:N_TO    54904.01    49.134 No_date    36:45    13.16  n/a
       [L/S/n=  280./ .033/.045]
       {Vmax=  .639:Dmax= 2.378}
#*****************************************************************************
#     Catchment CORRIG
#     - To Corrigan Drain (south of the Jock)
#     - Primarily Developed (medium density)
#*****************************************************************************
 002:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD02:CORRIG    149.00     6.811 No_date    28:05    25.84 .568
       [XIMP=.45:TIMP=.45]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 997.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#*****************************************************************************
#     Corrigan Pond 1
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
#*****************************************************************************
 002:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 02:CORRIG    149.00     6.811 No_date    28:05    25.84  n/a
       [RDT= 5.00] out<-  05:MS_P1      36.35      .060 No_date    27:25    25.84  n/a
             overflow <= 04:P1-OVF    112.65     6.599 No_date    28:10    25.84  n/a
      {MxStoUsed=.5800E+00,  TotOvfVol=.2911E+01,  N-Ovf=    2,  TotDurOvf=   13.hrs}
 002:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD              01:N_TO    54904.01    49.134 No_date    36:45    13.16  n/a
                        +  04:P1-OVF    112.65     6.599 No_date    28:10    25.84  n/a
                        +  05:MS_P1      36.35      .060 No_date    27:25    25.84  n/a
       [DT= 5.00]   SUM=  03:SN_CO   55053.02    49.314 No_date    36:40    13.19  n/a
 002:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD             03:SN_CO   55053.02    49.314 No_date    36:40    13.19  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CO.002
       remark:Total Flows at Corrigan Drain
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
 002:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 03:SN_CO   55053.02    49.314 No_date    36:40    13.19  n/a
       [RDT= 5.00] out<-  01:N_MI    55053.02    49.312 No_date    36:45    13.19  n/a
       [L/S/n=  580./ .445/.045]
       {Vmax= 1.456:Dmax= 1.227}
#*****************************************************************************
#     Catchment MILLS
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#*****************************************************************************
 002:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD02:MILLS     139.00     5.455 No_date    28:05    22.75 .500
       [XIMP=.38:TIMP=.38]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 963.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#*****************************************************************************
#     Chapman Mills SWM Pond
#     - Rating curve obtained from CCL hydraulic modeling
#*****************************************************************************
 002:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 02:MILLS     139.00     5.455 No_date    28:05    22.75  n/a
       [RDT= 5.00] out<-  05:MILL_P    139.00     1.760 No_date    28:45    22.75  n/a
             overflow <= 04:MIL-OV       .00      .000 No_date     0:00      .00  n/a
      {MxStoUsed=.1123E+01,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 002:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD              01:N_MI    55053.02    49.312 No_date    36:45    13.19  n/a
                        +  04:MIL-OV       .00      .000 No_date     0:00      .00  n/a
                        +  05:MILL_P    139.00     1.760 No_date    28:45    22.75  n/a
       [DT= 5.00]   SUM=  03:SN_MI   55192.02    49.553 No_date    36:45    13.21  n/a
 002:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD             03:SN_MI   55192.02    49.553 No_date    36:45    13.21  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_MI.002
       remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
 002:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 03:SN_MI   55192.02    49.553 No_date    36:45    13.21  n/a
       [RDT= 5.00] out<-  01:N_DE    55192.02    49.452 No_date    37:30    13.21  n/a
       [L/S/n= 1962./ .223/.045]
       {Vmax=  .940:Dmax=  .050}
#*****************************************************************************
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#*****************************************************************************
 002:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD02:DESIRE     24.00      .920 No_date    28:00    19.26 .423
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#*****************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#*****************************************************************************
 002:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD03:JOCKVA    252.00    11.718 No_date    28:05    26.85 .590
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1296.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#*****************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#*****************************************************************************
 002:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 03:JOCKVA    252.00    11.718 No_date    28:05    26.85  n/a
       [RDT= 5.00] out<-  05:JOCK_P    252.00     2.252 No_date    29:10    26.85  n/a
             overflow <= 04:JO-OVF       .00      .000 No_date     0:00      .00  n/a
      {MxStoUsed=.3236E+01,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 002:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD              01:N_DE    55192.02    49.452 No_date    37:30    13.21  n/a
                        +  02:DESIRE     24.00      .920 No_date    28:00    19.26  n/a
                        +  04:JO-OVF       .00      .000 No_date     0:00      .00  n/a
                        +  05:JOCK_P    252.00     2.252 No_date    29:10    26.85  n/a
       [DT= 5.00]   SUM=  03:SN_DE   55468.01    49.870 No_date    37:20    13.28  n/a
 002:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD             03:SN_DE   55468.01    49.870 No_date    37:20    13.28  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_DE.002
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
 002:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 03:SN_DE   55468.01    49.870 No_date    37:20    13.28  n/a
       [RDT= 5.00] out<-  01:N1      55468.01    49.870 No_date    37:25    13.28  n/a
       [L/S/n=  563./ .967/.045]
       {Vmax= 2.709:Dmax=  .015}
#*****************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#*****************************************************************************
 002:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS NASHYD  02:S-2       102.00     1.359 No_date    28:20    13.01 .286
       [CN= 72.0:  N= 3.00]
       [Tp=  .40:DT= 5.00]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
 002:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD              01:N1      55468.01    49.870 No_date    37:25    13.28  n/a
                        +  02:S-2       102.00     1.359 No_date    28:20    13.01  n/a
       [DT= 5.00]   SUM=  03:SN_N1   55570.01    49.967 No_date    37:25    13.28  n/a
 002:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD             03:SN_N1   55570.01    49.967 No_date    37:25    13.28  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_N1.002
       remark:Total Flows at Rideau River
  ** END OF RUN :    4

******************************************************************************

 RUN:COMMAND#
 005:0001-----------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  =   5 ]
#*****************************************************************************
#  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
#  Date         : October 2006
#  Modeller     : [Navin Gautam/ Original by Ana M Paerez]
#  Company      : Stantec.
#  License #    :  3824306
#*****************************************************************************
#----------------|------------------------------------------------------------|
 005:0002-----------------------------------------------------------------------
      READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
 005:0003-----------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
 005:0004-----------------------------------------------------------------------
      DEFAULT VALUES
       Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\MODIFIED.VAL
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [2005 City of Ottawa Sewer Design Guideline]
                  PARAMETERS USED IN THE DESIGN STANDHYD COMMAND FOR OTTAWA.
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   2.50 mm] [N= 3.00]
 005:0005-----------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
       {APImax= 90.83:  APIavg= 60.09:  APImin= 44.87}
#*****************************************************************************
#
#             JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
#                    PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
#
# Version: Draft Final Report, October 2006
# Revision History
# -Draft Interim Condition Report, Nov. 2005
#*****************************************************************************
# Assumptions
# - All catchments are assumed to be developed except S-1, S-2, and SW-1a
# - SWM facilities are modeled
# - Rating curves were estimated based on existing reports and modeling for the
#   proposed SWM facilities
# - The rating curve for the existing Kennedy Burnett SWM Facility was obtained
#   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- R
#   Municipality of Ottawa Carleton, March 1983
# - River routing modeled
# - River cross sections obtained from RVCA's HEC-RAS hydraulic model
#----------------|------------------------------------------------------------|
# Parameters
# - Design Storms: 2,5,10,25,50 &100yr events: 24hr SCS (DT=10min)-model compa
# - Impervious area weighted based on: rural subdivision @20%, urban @55%
# - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
# - Time to peak using Uplands Method
#----------------|------------------------------------------------------------|
#*****************************************************************************
#Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
#*****************************************************************************
 005:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      READ HYD             01:S_N2    52483.01    66.413 No_date    33:10    18.30  n/a
       Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-S_N2.005
       Comment  = N2
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
 005:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 01:S_N2    52483.01    66.413 No_date    33:10    18.30  n/a
       [RDT=10.00] out<-  04:N_416   52483.01    65.031 No_date    34:30    18.30  n/a
       [L/S/n= 2327./ .050/.055]
       {Vmax=  .655:Dmax= 2.644}
#*****************************************************************************
#     Catchment SW-1a
#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#     - Undeveloped agricultural land
#*****************************************************************************
 005:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS NASHYD  02:SW_1a     546.00     3.042 No_date    31:15    18.99 .332
       [CN= 72.0:  N= 3.00]
       [Tp= 2.79:DT= 5.00]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
 005:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD              04:N_416   52483.01    65.031 No_date    34:30    18.30  n/a
                        +  02:SW_1a     546.00     3.042 No_date    31:15    18.99  n/a
       [DT= 5.00]   SUM=  03:SN_416  53029.01    67.141 No_date    34:10    18.30  n/a
 005:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD             03:SN_416  53029.01    67.141 No_date    34:10    18.30  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_416.005
       remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
 005:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 03:SN_416  53029.01    67.141 No_date    34:10    18.30  n/a
       [RDT= 5.00] out<-  01:N_OK    53029.01    67.140 No_date    34:10    18.30  n/a
       [L/S/n=  497./ .302/.055]
       {Vmax= 1.349:Dmax= 2.239}
#*****************************************************************************
#     Catchment OKEEFE
#     - To O'Keefe drain (north of the Jock)
#     - Developed with assumed 43% imp.
#*****************************************************************************
 005:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD02:OKEEFE    448.00    19.045 No_date    28:15    34.02 .596
       [XIMP=.43:TIMP=.43]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1728.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#*****************************************************************************
#     Okeefe Pond
#     - Rating curve obtained assuming 40m³/ha in 24 hours for quality control
#     and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#*****************************************************************************
 005:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 02:OKEEFE    448.00    19.045 No_date    28:15    34.02  n/a
       [RDT= 5.00] out<-  04:P_OKE      88.43      .200 No_date    27:00    34.02  n/a
             overflow <= 09:ok-OVF    359.57    18.683 No_date    28:20    34.02  n/a
      {MxStoUsed=.1720E+01,  TotOvfVol=.1223E+02,  N-Ovf=    2,  TotDurOvf=   14.hrs}
 005:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD              01:N_OK    53029.01    67.140 No_date    34:10    18.30  n/a
                        +  04:P_OKE      88.43      .200 No_date    27:00    34.02  n/a
```

```
                            +  09:ok-OVF     359.57    18.683 No_date    28:20    34.02  n/a
         [DT= 5.00]   SUM=  03:SN_OK   53477.01    68.150 No_date    34:05    18.44  n/a
  005:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_OK   53477.01    68.150 No_date    34:05    18.44  n/a
         fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_OK.005
         remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
  005:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL    -> 03:SN_OK   53477.01    68.150 No_date    34:05    18.44  n/a
        [RDT= 5.00] out<-  01:N_FO    53477.01    68.124 No_date    34:20    18.44  n/a
        [L/S/n= 1183./ .076/.035]
        {Vmax= 1.826:Dmax=  .015}
#****************************************************************************
#     Catchment FOSTER
#     - To Foster ditch (north of the Jock)
#     - Partially developed (medium density); remaining agricultural
#****************************************************************************
  005:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:FOSTER    373.00    20.654 No_date    28:10    37.71 .660
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1577.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#****************************************************************************
#     Foster Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#        and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#****************************************************************************
  005:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 02:FOSTER    373.00    20.654 No_date    28:10    37.71  n/a
        [RDT= 5.00] out<-  04:P_FOS      79.61      .200 No_date    26:45    37.71  n/a
              overflow <= 09:FO-OVF    293.39    20.155 No_date    28:15    37.71  n/a
       {MxStoUsed=.1720E+01, TotOvfVol=.1106E+02, N-Ovf=    2, TotDurOvf=   14.hrs}
  005:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_FO    53477.01    68.124 No_date    34:20    18.44  n/a
                         +  04:P_FOS      79.61      .200 No_date    26:45    37.71  n/a
                         +  09:FO-OVF    293.39    20.155 No_date    28:15    37.71  n/a
        [DT= 5.00]   SUM=  03:SN_FO   53850.01    68.977 No_date    34:20    18.57  n/a
  005:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_FO   53850.01    68.977 No_date    34:20    18.57  n/a
         fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_FO.005
         remark:Total Flows at Foster Drain
#
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
  005:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL    -> 03:SN_FO   53850.01    68.977 No_date    34:20    18.57  n/a
        [RDT= 5.00] out<-  01:N_CE    53850.01    68.977 No_date    34:20    18.57  n/a
        [L/S/n=  159./ .082/.035]
        {Vmax= 3.197:Dmax=  .003}
#****************************************************************************
#     Catchment S-1
#     - To Jock River (north and south of Jock)
#     - Primarily agricultural fields; portion of sand quarry
#****************************************************************************
  005:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS NASHYD  02:S-1       245.00     3.163 No_date    29:10    21.69 .380
        [CN= 77.0:  N= 3.00]
        [Tp= 1.10:DT= 5.00]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
  005:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_CE    53850.01    68.977 No_date    34:20    18.57  n/a
                         +  02:S-1       245.00     3.163 No_date    29:10    21.69  n/a
        [DT= 5.00]   SUM=  03:SN_CE   54095.01    69.514 No_date    34:15    18.58  n/a
  005:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_CE   54095.01    69.514 No_date    34:15    18.58  n/a
         fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CE.005
         remark:Total Flows at Cedarview Road
#
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
#
  005:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL    -> 03:SN_CE   54095.01    69.514 No_date    34:15    18.58  n/a
        [RDT= 5.00] out<-  01:N_WC    54095.01    69.495 No_date    34:25    18.58  n/a
        [L/S/n=  825./ .010/.035]
        {Vmax= 1.282:Dmax=  .001}
#****************************************************************************
#     Catchment W_CLAR
#     - To West Clarke Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#****************************************************************************
  005:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:W_CLAR    243.00    13.629 No_date    28:05    33.48 .586
        [XIMP=.43:TIMP=.43]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1273.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
#****************************************************************************
#     West Clarke Pond 2
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 2 = 241 ha
#****************************************************************************
  005:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 02:W_CLAR    243.00    13.629 No_date    28:05    33.48  n/a
        [RDT= 5.00] out<-  08:MS_P2      49.32      .110 No_date    26:50    33.48  n/a
              overflow <= 09:P2-OVF    193.68    13.346 No_date    28:10    33.48  n/a
       {MxStoUsed=.9598E+00, TotOvfVol=.6484E+01, N-Ovf=    2, TotDurOvf=   14.hrs}
  005:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              08:MS_P2      49.32      .110 No_date    26:50    33.48  n/a
                         +  09:P2-OVF    193.68    13.346 No_date    28:10    33.48  n/a
                         +  01:N_WC    54095.01    69.495 No_date    34:25    18.58  n/a
        [DT= 5.00]   SUM=  04:SN_WC   54338.01    70.010 No_date    34:25    18.65  n/a
  005:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             04:SN_WC   54338.01    70.010 No_date    34:25    18.65  n/a
         fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_WC.005
         remark:Total Flows at West Clarke Pond Outlet
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
  005:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL    -> 04:SN_WC   54338.01    70.010 No_date    34:25    18.65  n/a
        [RDT= 5.00] out<-  01:N_KB    54338.01    69.990 No_date    34:30    18.65  n/a
        [L/S/n= 1020./ .050/.035]
        {Vmax=  .946:Dmax= 2.860}
#****************************************************************************
#     Catchment KEN_BU
#     - To Kennedy-Burnett SWM Facility
#     - Outlets to Fraser-Clarke drain (north of the Jock)
#     - Medium density residential subdivision
#****************************************************************************
  005:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:KEN_BU    281.00    18.799 No_date    28:05    37.13 .650
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 71.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1369.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 41.38:  SMAX=275.84:  SK= .010]
#****************************************************************************
#    Existing Kennedy-Burnett SWM Facility
#     - Rating curve obtained from URTKBP
#     - Tributary Drainage Area to Pond = 160 ha
#****************************************************************************
  005:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 02:KEN_BU    281.00    18.799 No_date    28:05    37.13  n/a
        [RDT= 5.00] out<-  05:KEN_P     180.29     1.150 No_date    28:05    37.13  n/a
              overflow <= 06:KEN-OV    100.71    17.309 No_date    28:10    37.13  n/a
       {MxStoUsed=.2330E+01, TotOvfVol=.3739E+01, N-Ovf=    4, TotDurOvf=    3.hrs}
#****************************************************************************
#     Catchment FRASER
#     - To Fraser-Clarke drain (north of the Jock)
#     - Developed land with assumed 43% imp.
#****************************************************************************
  005:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD07:FRASER     90.00     4.131 No_date    28:05    28.74 .503
        [XIMP=.25:TIMP=.25]
        [LOSS= 2 :CN= 80.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 775.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 26.32:  SMAX=175.50:  SK= .010]
  005:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 07:FRASER     90.00     4.131 No_date    28:05    28.74  n/a
        [RDT= 5.00] out<-  08:MS_P2      20.53      .040 No_date    27:45    28.74  n/a
              overflow <= 09:P2-OVF     69.47     4.019 No_date    28:05    28.74  n/a
       {MxStoUsed=.3600E+00, TotOvfVol=.1997E+01, N-Ovf=    2, TotDurOvf=   13.hrs}
  005:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              05:KEN_P     180.29     1.150 No_date    28:05    37.13  n/a
                         +  06:KEN-OV    100.71    17.309 No_date    28:10    37.13  n/a
                         +  08:MS_P2      20.53      .040 No_date    27:45    28.74  n/a
                         +  09:P2-OVF     69.47     4.019 No_date    28:05    28.74  n/a
                         +  01:N_KB    54338.01    69.990 No_date    34:30    18.65  n/a
        [DT= 5.00]   SUM=  04:SN_KB   54709.01    71.220 No_date    34:30    18.76  n/a
  005:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             04:SN_KB   54709.01    71.220 No_date    34:30    18.76  n/a
         fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_KB.005
         remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
#
  005:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL    -> 04:SN_KB   54709.01    71.220 No_date    34:30    18.76  n/a
   *    [RDT= 5.00] out<-  01:N_TO    54709.01    70.805 No_date    35:15    18.76  n/a
        [L/S/n=  650./ .050/.035]
        {Vmax=  .281:Dmax=  .999}
#****************************************************************************
#     Catchment TODD
#     - To Todd Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#****************************************************************************
  005:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD03:TODD      195.00    11.301 No_date    28:05    34.02 .596
        [XIMP=.43:TIMP=.43]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1140.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#****************************************************************************
#     Todd Pond 3
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 3 = 193 ha
#****************************************************************************
  005:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 03:TODD      195.00    11.301 No_date    28:05    34.02  n/a
        [RDT= 5.00] out<-  02:MS_P3      37.74      .080 No_date    26:50    34.02  n/a
              overflow <= 09:P3-OVF    157.26    11.047 No_date    28:10    34.02  n/a
       {MxStoUsed=.7800E+00, TotOvfVol=.5350E+01, N-Ovf=    2, TotDurOvf=   14.hrs}
  005:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_TO    54709.01    70.805 No_date    35:15    18.76  n/a
                         +  02:MS_P3      37.74      .080 No_date    26:50    34.02  n/a
                         +  09:P3-OVF    157.26    11.047 No_date    28:10    34.02  n/a
        [DT= 5.00]   SUM=  10:SN_TO   54904.01    71.226 No_date    35:15    18.82  n/a
  005:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             10:SN_TO   54904.01    71.226 No_date    35:15    18.82  n/a
         fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_TO.005
         remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
  005:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL    -> 10:SN_TO   54904.01    71.226 No_date    35:15    18.82  n/a
   *    [RDT= 5.00] out<-  01:N_TO    54904.01    71.106 No_date    35:40    18.82  n/a
        [L/S/n=  280./ .033/.045]
        {Vmax=  .721:Dmax= 2.885}
#****************************************************************************
#     Catchment CORRIG
#     - To Corrigan Drain (south of the Jock)
#     - Primarily Developed (medium density)
#****************************************************************************
  005:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:CORRIG    149.00     9.766 No_date    28:05    34.78 .609
        [XIMP=.45:TIMP=.45]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 997.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#****************************************************************************
#     Corrigan Pond 1
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
#****************************************************************************
  005:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 02:CORRIG    149.00     9.766 No_date    28:05    34.78  n/a
        [RDT= 5.00] out<-  05:MS_P1      27.65      .060 No_date    26:30    34.78  n/a
              overflow <= 04:P1-OVF    121.35     9.684 No_date    28:05    34.78  n/a
       {MxStoUsed=.5799E+00, TotOvfVol=.4220E+01, N-Ovf=    3, TotDurOvf=   14.hrs}
  005:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_TO    54904.01    71.106 No_date    35:40    18.82  n/a
                         +  04:P1-OVF    121.35     9.684 No_date    28:05    34.78  n/a
                         +  05:MS_P1      27.65      .060 No_date    26:30    34.78  n/a
        [DT= 5.00]   SUM=  03:SN_CO   55053.00    71.431 No_date    35:40    18.86  n/a
  005:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_CO   55053.00    71.431 No_date    35:40    18.86  n/a
         fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CO.005
         remark:Total Flows at Corrigan Drain
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
  005:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL    -> 03:SN_CO   55053.00    71.431 No_date    35:40    18.86  n/a
        [RDT= 5.00] out<-  01:N_MI    55053.00    71.427 No_date    35:45    18.86  n/a
        [L/S/n=  580./ .445/.045]
        {Vmax= 1.654:Dmax= 1.485}
#****************************************************************************
#     Catchment MILLS
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#****************************************************************************
  005:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:MILLS     139.00     7.873 No_date    28:05    30.98 .542
        [XIMP=.38:TIMP=.38]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 963.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#****************************************************************************
#     Chapman Mills SWM Pond
#     - Rating curve obtained from CCL hydraulic modeling
#****************************************************************************
  005:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 02:MILLS     139.00     7.873 No_date    28:05    30.98  n/a
        [RDT= 5.00] out<-  05:MILL_P    139.00     2.516 No_date    28:40    30.98  n/a
              overflow <= 04:MIL-OV        .00      .000 No_date     0:00      .00  n/a
       {MxStoUsed=.1506E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
  005:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_MI    55053.00    71.427 No_date    35:45    18.86  n/a
                         +  04:MIL-OV        .00      .000 No_date     0:00      .00  n/a
                         +  05:MILL_P    139.00     2.516 No_date    28:40    30.98  n/a
        [DT= 5.00]   SUM=  03:SN_MI   55192.00    71.786 No_date    35:45    18.89  n/a
  005:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_MI   55192.00    71.786 No_date    35:45    18.89  n/a
         fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_MI.005
         remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
  005:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL    -> 03:SN_MI   55192.00    71.786 No_date    35:45    18.89  n/a
        [RDT= 5.00] out<-  01:N_DE    55192.00    71.488 No_date    36:20    18.89  n/a
        [L/S/n= 1962./ .223/.045]
        {Vmax=  .940:Dmax=  .073}
#****************************************************************************
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#****************************************************************************
  005:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:DESIRE     24.00     1.289 No_date    28:00    27.22 .477
        [XIMP=.25:TIMP=.25]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#****************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#****************************************************************************
  005:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD03:JOCKVA    252.00    15.852 No_date    28:05    35.73 .626
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1296.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#****************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#****************************************************************************
  005:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 03:JOCKVA    252.00    15.852 No_date    28:05    35.73  n/a
        [RDT= 5.00] out<-  05:JOCK_P    252.00     4.332 No_date    28:50    35.73  n/a
              overflow <= 04:JO-OVF        .00      .000 No_date     0:00      .00  n/a
       {MxStoUsed=.3962E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
  005:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_DE    55192.00    71.488 No_date    36:20    18.89  n/a
                         +  02:DESIRE     24.00     1.289 No_date    28:00    27.22  n/a
                         +  04:JO-OVF        .00      .000 No_date     0:00      .00  n/a
                         +  05:JOCK_P    252.00     4.332 No_date    28:50    35.73  n/a
        [DT= 5.00]   SUM=  03:SN_DE   55468.00    72.143 No_date    36:15    18.97  n/a
  005:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_DE   55468.00    72.143 No_date    36:15    18.97  n/a
         fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_DE.005
         remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
  005:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL    -> 03:SN_DE   55468.00    72.143 No_date    36:15    18.97  n/a
        [RDT= 5.00] out<-  01:N1      55468.00    72.141 No_date    36:20    18.97  n/a
        [L/S/n=  563./ .967/.045]
        {Vmax= 2.709:Dmax=  .022}
#****************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#****************************************************************************
  005:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS NASHYD  02:S-2       102.00     2.237 No_date    28:20    18.99 .332
        [CN= 72.0:  N= 3.00]
        [Tp=  .40:DT= 5.00]
        [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
        [InterEventTime=  12.00]
  005:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
```

```
       ADD HYD              01:N1      55468.00    72.141 No_date    36:20    18.97   n/a
                         +  02:S-2       102.00     2.237 No_date    28:20    18.99   n/a
        [DT= 5.00]   SUM=   03:SN_N1   55570.00    72.311 No_date    36:20    18.97   n/a
   005:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_N1   55570.00    72.311 No_date    36:20    18.97   n/a
        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_N1.005
        remark:Total Flows at Rideau River
    ** END OF RUN :   24

 *************************************************************************





  RUN:COMMAND#
  025:0001-----------------------------------------------------------------
       START
        [TZERO =    .00 hrs on        0]
        [METOUT=   2    (1=imperial, 2=metric output)]
        [NSTORM=   1 ]
        [NRUN  =  25 ]
 #*************************************************************************
 #  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
 #  Date        : October 2006
 #  Modeller    : [Navin Gautam/ Original by Ana M Paerez]
 #  Company     : Stantec.
 #  License #   :  3824306
 #*************************************************************************
 #----------------|-------------------------------------------------------|
  025:0002------------------------------------------------------------------
       READ STORM
        Filename = storm 001
        Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
        [SDT=10.00:SDUR=  24.00:PTOT=  74.39]
  025:0003------------------------------------------------------------------
       MODIFY STORM
        [RFACT=  1.00:TSHIFT= 960.00 min]
        [SDT=10.00:SDUR=  40.00:PTOT=  74.39]
  025:0004------------------------------------------------------------------
       DEFAULT VALUES
        Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\MODIFIED.VAL
        ICASEdv  = 1 (read and print data)
        FileTitle= File comment: [2005 City of Ottawa Sewer Design Guideline]
                   PARAMETERS USED IN THE DESIGN STANDHYD COMMAND FOR OTTAWA.
        Horton's infiltration equation parameters:
        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
        Parameters for PERVIOUS surfaces in STANDHYD:
        [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
        Parameters for IMPERVIOUS surfaces in STANDHYD:
        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
        Parameters used in NASHYD:
        [Ia=   2.50 mm] [N= 3.00]
  025:0005------------------------------------------------------------------
       COMPUTE API
        [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
        {APImax=106.76:  APIavg= 65.09:  APImin= 44.87}
 #*************************************************************************
 #
 #           JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
 #                 PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
 #
 # Version: Draft Final Report, October 2006
 # Revision History
 # -Draft Interim Condition Report, Nov. 2005
 #*************************************************************************
 # Assumptions
 # - All catchments are assumed to be developed except S-1, S-2, and SW-1a
 # - SWM facilities are modeled
 # - Rating curves were estimated based on existing reports and modeling for the
 #   proposed SWM facilities
 # - The rating curve for the existing Kennedy Burnett SWM Facility was obtained
 #   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- R
 #   Municipality of Ottawa Carleton, March 1983
 # - River routing modeled
 # - River cross sections obtained from RVCA's HEC-RAS hydraulic model
 #----------------|-------------------------------------------------------|
 # Parameters
 # - Design Storms: 2,5,10,25,50 &100yr events: 24hr SCS (DT=10min)-model compa
 # - Impervious area weighted based on: rural subdivision @20%, urban @55%
 # - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
 # - Time to peak using Uplands Method
 #----------------|-------------------------------------------------------|
 #*************************************************************************
 #Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
 #*************************************************************************
  025:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       READ HYD             01:S_N2    52483.01   104.834 No_date    33:00    28.63   n/a
        Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-S_N2.025
        Comment  = N2
 #
 # Hydrograph from Node 2 routed to Node 416
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
 #
  025:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL   -> 01:S_N2    52483.01   104.834 No_date    33:00    28.63   n/a
        [RDT=10.00] out<- 04:N_416   52483.01   102.143 No_date    33:50    28.63   n/a
        [L/S/n= 2327./ .050/.055]
        {Vmax=  .752:Dmax= 3.287}
 #*************************************************************************
 #    Catchment SW-1a
 #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
 #    - Undeveloped agricultural land
 #*************************************************************************
  025:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS NASHYD  02:SW_1a     546.00     5.203 No_date    31:15    30.12 .405
        [CN= 72.0:  N= 3.00]
        [Tp= 2.79:DT= 5.00]
        [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
        [InterEventTime=  12.00]
  025:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              04:N_416   52483.01   102.143 No_date    33:50    28.63   n/a
                         +  02:SW_1a     546.00     5.203 No_date    31:15    30.12   n/a
        [DT= 5.00]   SUM=   03:SN_416 53029.01   106.064 No_date    33:40    28.65   n/a
  025:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_416 53029.01   106.064 No_date    33:40    28.65   n/a
        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_416.025
        remark:Total Flows at Highway 416
 #
 # Hydrograph from Node 416 routed to Node at Okeefe drain
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
 #
  025:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL   -> 03:SN_416 53029.01   106.064 No_date    33:40    28.65   n/a
        [RDT= 5.00] out<- 01:N_OK    53029.01   106.047 No_date    33:45    28.65   n/a
        [L/S/n=  497./ .302/.055]
        {Vmax= 1.563:Dmax= 2.795}
 #*************************************************************************
 #    Catchment OKEEFE
 #    - To O'Keefe drain (north of the Jock)
 #    - Developed with assumed 43% imp.
 #*************************************************************************
  025:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:OKEEFE    448.00    29.427 No_date    28:10    48.46 .651
        [XIMP=.43:TIMP=.43]
        [LOSS= 2 :CN= 77.0]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1728.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
 #*************************************************************************
 #    Okeefe Pond
 #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
 #       and a ratio of the catchment area to the West Clarke pond rating curve
 #      from the MSS for the next coordinates
 #*************************************************************************
  025:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 02:OKEEFE    448.00    29.427 No_date    28:10    48.46   n/a
        [RDT= 5.00] out<- 04:P_OKE      63.85      .200 No_date    25:40    48.46   n/a
              overflow <= 09:ok-OVF    384.15    29.155 No_date    28:15    48.46   n/a
       {MxStoUsed=.1719E+01,  TotOvfVol=.1862E+02,  N-Ovf=    2,  TotDurOvf=   15.hrs}
  025:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_OK    53029.01   106.047 No_date    33:45    28.65   n/a
                         +  04:P_OKE      63.85      .200 No_date    25:40    48.46   n/a
                         +  09:ok-OVF    384.15    29.155 No_date    28:15    48.46   n/a
        [DT= 5.00]   SUM=   03:SN_OK   53477.01   107.487 No_date    33:45    28.82   n/a
  025:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_OK   53477.01   107.487 No_date    33:45    28.82   n/a
        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_OK.025
        remark:Total Flows at Okeefe Drain
 #
 # Hydrograph from Node Okeefe routed to Node at Foster Drain
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
 #
  025:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL   -> 03:SN_OK   53477.01   107.487 No_date    33:45    28.82   n/a
        [RDT= 5.00] out<- 01:N_FO    53477.01   107.402 No_date    33:50    28.82   n/a
        [L/S/n= 1183./ .076/.035]
        {Vmax= 1.826:Dmax=  .024}
 #*************************************************************************
 #    Catchment FOSTER
 #    - To Foster ditch (north of the Jock)
 #    - Partially developed (medium density); remaining agricultural
 #*************************************************************************
  025:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:FOSTER    373.00    29.559 No_date    28:10    52.35 .704
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1577.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
 #*************************************************************************
 #    Foster Pond
 #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
 #       and a ratio of the catchment area to the West Clarke pond rating curve
 #      from the MSS for the next coordinates
 #*************************************************************************
  025:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 02:FOSTER    373.00    29.559 No_date    28:10    52.35   n/a
        [RDT= 5.00] out<- 04:P_FOS      59.03      .200 No_date    25:25    52.35   n/a
              overflow <= 09:FO-OVF    313.97    28.947 No_date    28:15    52.35   n/a
       {MxStoUsed=.1720E+01,  TotOvfVol=.1644E+02,  N-Ovf=    2,  TotDurOvf=   15.hrs}
  025:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_FO    53477.01   107.402 No_date    33:50    28.82   n/a
                         +  04:P_FOS      59.03      .200 No_date    25:25    52.35   n/a
                         +  09:FO-OVF    313.97    28.947 No_date    28:15    52.35   n/a
        [DT= 5.00]   SUM=   03:SN_FO   53850.01   108.602 No_date    33:50    28.98   n/a
  025:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_FO   53850.01   108.602 No_date    33:50    28.98   n/a
        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_FO.025
        remark:Total Flows at Foster Drain
 #
 # Hydrograph from Node Foster routed to Node at Cedarview Road
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
 #
  025:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL   -> 03:SN_FO   53850.01   108.602 No_date    33:50    28.98   n/a
        [RDT= 5.00] out<- 01:N_CE    53850.01   108.600 No_date    33:50    28.98   n/a
        [L/S/n=  159./ .082/.035]
        {Vmax= 3.197:Dmax=  .004}
 #*************************************************************************
 #    Catchment S-1
 #    - To Jock River (north and south of Jock)
 #    - Primarily agricultural fields; portion of sand quarry
 #*************************************************************************
  025:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS NASHYD  02:S-1       245.00     5.406 No_date    29:10    34.13 .459
        [CN= 77.0:  N= 3.00]
        [Tp= 1.10:DT= 5.00]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
  025:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_CE    53850.01   108.600 No_date    33:50    28.98   n/a
                         +  02:S-1       245.00     5.406 No_date    29:10    34.13   n/a
        [DT= 5.00]   SUM=   03:SN_CE   54095.01   109.498 No_date    33:50    29.00   n/a
  025:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             03:SN_CE   54095.01   109.498 No_date    33:50    29.00   n/a
        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CE.025
        remark:Total Flows at Cedarview Road
 #
 # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
 #
  025:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL   -> 03:SN_CE   54095.01   109.498 No_date    33:50    29.00   n/a
        [RDT= 5.00] out<- 01:N_WC    54095.01   109.438 No_date    34:00    29.00   n/a
        [L/S/n=  825./ .010/.035]
        {Vmax= 1.282:Dmax=  .002}
 #*************************************************************************
 #    Catchment W_CLAR
 #    - To West Clarke Drain (south of the Jock)
 #    - Subdivision with 43% imp. as per Barrhaven South MSS
 #*************************************************************************
  025:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:W_CLAR    243.00    19.911 No_date    28:05    47.67 .641
        [XIMP=.43:TIMP=.43]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1273.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
 #*************************************************************************
 #    West Clarke Pond 2
 #    - Rating curve obtained from Barrhaven South MSS modeling
 #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
 #*************************************************************************
  025:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 02:W_CLAR    243.00    19.911 No_date    28:05    47.67   n/a
        [RDT= 5.00] out<- 08:MS_P2      35.65      .110 No_date    25:40    47.67   n/a
              overflow <= 09:P2-OVF    207.35    19.630 No_date    28:10    47.67   n/a
       {MxStoUsed=.9599E+00,  TotOvfVol=.9884E+01,  N-Ovf=    1,  TotDurOvf=   15.hrs}
  025:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              08:MS_P2      35.65      .110 No_date    25:40    47.67   n/a
                         +  09:P2-OVF    207.35    19.630 No_date    28:10    47.67   n/a
                         +  01:N_WC    54095.01   109.438 No_date    34:00    29.00   n/a
        [DT= 5.00]   SUM=   04:SN_WC   54338.01   110.177 No_date    34:00    29.09   n/a
  025:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             04:SN_WC   54338.01   110.177 No_date    34:00    29.09   n/a
        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_WC.025
        remark:Total Flows at West Clarke Pond Outlet
 # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
 #
  025:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL   -> 04:SN_WC   54338.01   110.177 No_date    34:00    29.09   n/a
        [RDT= 5.00] out<- 01:N_KB    54338.01   109.789 No_date    34:10    29.09   n/a
        [L/S/n= 1020./ .050/.035]
        {Vmax= 1.079:Dmax= 3.520}
 #*************************************************************************
 #    Catchment KEN_BU
 #    - To Kennedy-Burnett SWM Facility
 #    - Outlets to Fraser-Clarke drain (north of the Jock)
 #    - Medium density residential subdivision
 #*************************************************************************
  025:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD02:KEN_BU    281.00    26.648 No_date    28:05    51.46 .692
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 71.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1369.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 41.38:  SMAX=275.84:  SK= .010]
 #*************************************************************************
 #   Existing Kennedy-Burnett SWM Facility
 #    - Rating curve obtained from URTKBP
 #    - Tributary Drainage Area to Pond = 160 ha
 #*************************************************************************
  025:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 02:KEN_BU    281.00    26.648 No_date    28:05    51.46   n/a
        [RDT= 5.00] out<- 05:KEN_P     150.13     1.150 No_date    27:55    51.46   n/a
              overflow <= 06:KEN-OV    130.87    25.019 No_date    28:10    51.46   n/a
       {MxStoUsed=.2329E+01,  TotOvfVol=.6735E+01,  N-Ovf=    3,  TotDurOvf=    4.hrs}
 #*************************************************************************
 #    Catchment FRASER
 #    - To Fraser-Clarke drain (north of the Jock)
 #    - Developed land with assumed 43% imp.
 #*************************************************************************
  025:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD07:FRASER     90.00     6.649 No_date    28:05    42.95 .577
        [XIMP=.25:TIMP=.25]
        [LOSS= 2 :CN= 80.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 775.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 26.32:  SMAX=175.50:  SK= .010]
  025:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 07:FRASER     90.00     6.649 No_date    28:05    42.95   n/a
        [RDT= 5.00] out<- 08:MS_P2      14.10      .040 No_date    27:05    42.95   n/a
              overflow <= 09:P2-OVF     75.90     6.399 No_date    28:05    42.95   n/a
       {MxStoUsed=.3600E+00,  TotOvfVol=.3260E+01,  N-Ovf=    2,  TotDurOvf=   14.hrs}
  025:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              05:KEN_P     150.13     1.150 No_date    27:55    51.46   n/a
                         +  06:KEN-OV    130.87    25.019 No_date    28:10    51.46   n/a
                         +  08:MS_P2      14.10      .040 No_date    27:05    42.95   n/a
                         +  09:P2-OVF     75.90     6.399 No_date    28:05    42.95   n/a
                         +  01:N_KB    54338.01   109.789 No_date    34:10    29.09   n/a
        [DT= 5.00]   SUM=   04:SN_KB   54709.01   111.172 No_date    34:10    29.22   n/a
  025:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             04:SN_KB   54709.01   111.172 No_date    34:10    29.22   n/a
        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_KB.025
        remark:Total Flows at Ken-Burnett Outlet
 # Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
 #
  025:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE CHANNEL   -> 04:SN_KB   54709.01   111.172 No_date    34:10    29.22   n/a
   *    [RDT= 5.00] out<- 01:N_TO    54709.01   110.460 No_date    35:00    29.22   n/a
        [L/S/n=  650./ .050/.035]
        {Vmax=  .280:Dmax=  .998}
 #*************************************************************************
 #    Catchment TODD
 #    - To Todd Drain (south of the Jock)
 #    - Subdivision with 43% imp. as per Barrhaven South MSS
 #*************************************************************************
  025:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       CONTINUOUS STANDHYD03:TODD      195.00    17.774 No_date    28:05    48.46 .651
        [XIMP=.43:TIMP=.43]
        [LOSS= 2 :CN= 77.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1140.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
 #*************************************************************************
 #    Todd Pond 3
 #    - Rating curve obtained from Barrhaven South MSS modeling
 #    - Tributary Drainage Area to MSS Pond 3 = 193 ha
 #*************************************************************************
  025:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ROUTE RESERVOIR -> 03:TODD      195.00    17.774 No_date    28:05    48.46   n/a
        [RDT= 5.00] out<- 02:MS_P3      27.18      .080 No_date    25:35    48.46   n/a
              overflow <= 09:P3-OVF    167.82    17.455 No_date    28:05    48.46   n/a
       {MxStoUsed=.7799E+00,  TotOvfVol=.8133E+01,  N-Ovf=    2,  TotDurOvf=   15.hrs}
  025:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       ADD HYD              01:N_TO    54709.01   110.460 No_date    35:00    29.22   n/a
                         +  02:MS_P3      27.18      .080 No_date    25:35    48.46   n/a
                         +  09:P3-OVF    167.82    17.455 No_date    28:05    48.46   n/a
        [DT= 5.00]   SUM=   10:SN_TO   54904.01   111.061 No_date    35:00    29.29   n/a
  025:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
       SAVE HYD             10:SN_TO   54904.01   111.061 No_date    35:00    29.29   n/a
        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_TO.025
        remark:Total Flows at Todd Drain
 #
 # Hydrograph from Todd Drain routed to Corrigan Drain
```

```
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
 025:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL    -> 10:SN_TO   54904.01  111.061 No_date   35:00   29.29  n/a
   *   [RDT= 5.00] out<- 01:N_TO    54904.01  110.730 No_date   35:20   29.29  n/a
       [L/S/n=  280./ .033/.045]
       {Vmax=  .717:Dmax= 3.588}
#******************************************************************************
#     Catchment CORRIG
#     - To Corrigan Drain (south of the Jock)
#     - Primarily Developed (medium density)
#******************************************************************************
 025:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:CORRIG   149.00   14.272 No_date   28:05   49.32 .663
       [XIMP=.45:TIMP=.45]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 997.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#******************************************************************************
#     Corrigan Pond 1
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
#******************************************************************************
 025:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:CORRIG   149.00   14.272 No_date   28:05   49.32  n/a
       [RDT= 5.00] out<- 05:MS_P1     20.01     .060 No_date   25:15   49.32  n/a
             overflow <= 04:P1-OVF   128.99   14.115 No_date   28:05   49.32  n/a
     {MxStoUsed=.5798E+00, TotOvfVol=.6362E+01, N-Ovf=    3, TotDurOvf=   15.hrs}
 025:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD                01:N_TO   54904.01  110.730 No_date   35:20   29.29  n/a
                        + 04:P1-OVF   128.99   14.115 No_date   28:05   49.32  n/a
                        + 05:MS_P1     20.01     .060 No_date   25:15   49.32  n/a
       [DT= 5.00]  SUM=  03:SN_CO   55053.01  111.193 No_date   35:20   29.35  n/a
 025:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD               03:SN_CO   55053.01  111.193 No_date   35:20   29.35  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CO.025
       remark:Total Flows at Corrigan Drain
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
 025:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL    -> 03:SN_CO   55053.01  111.193 No_date   35:20   29.35  n/a
       [RDT= 5.00] out<- 01:N_MI    55053.01  111.200 No_date   35:25   29.35  n/a
       [L/S/n=  580./ .445/.045]
       {Vmax= 1.965:Dmax= 1.852}
#******************************************************************************
#     Catchment MILLS
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#******************************************************************************
 025:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:MILLS    139.00   11.666 No_date   28:05   44.62 .600
       [XIMP=.38:TIMP=.38]
       [LOSS= 2 :CN= 74.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 963.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#******************************************************************************
#     Chapman Mills SWM Pond
#     - Rating curve obtained from CCL hydraulic modeling
#******************************************************************************
 025:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:MILLS    139.00   11.666 No_date   28:05   44.62  n/a
       [RDT= 5.00] out<- 05:MILL_P   139.00    3.765 No_date   28:40   44.62  n/a
             overflow <= 04:MIL-OV      .00     .000 No_date    0:00     .00  n/a
     {MxStoUsed=.2157E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 025:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD                01:N_MI    55053.01  111.200 No_date   35:25   29.35  n/a
                        + 04:MIL-OV      .00     .000 No_date    0:00     .00  n/a
                        + 05:MILL_P   139.00    3.765 No_date   28:40   44.62  n/a
       [DT= 5.00]  SUM=  03:SN_MI   55192.01  111.709 No_date   35:25   29.38  n/a
 025:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD               03:SN_MI   55192.01  111.709 No_date   35:25   29.38  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_MI.025
       remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
 025:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL    -> 03:SN_MI   55192.01  111.709 No_date   35:25   29.38  n/a
       [RDT= 5.00] out<- 01:N_DE    55192.01  111.156 No_date   36:05   29.38  n/a
       [L/S/n= 1962./ .223/.045]
       {Vmax=  .940:Dmax=  .113}
#******************************************************************************
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#******************************************************************************
 025:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:DESIRE    24.00    2.012 No_date   28:00   40.77 .548
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#******************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#******************************************************************************
 025:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD03:JOCKVA   252.00   22.732 No_date   28:05   50.08 .673
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1296.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#******************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#******************************************************************************
 025:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 03:JOCKVA   252.00   22.732 No_date   28:05   50.08  n/a
       [RDT= 5.00] out<- 05:JOCK_P   252.00    8.221 No_date   28:40   50.08  n/a
             overflow <= 04:JO-OVF      .00     .000 No_date    0:00     .00  n/a
     {MxStoUsed=.5163E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 025:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD                01:N_DE    55192.01  111.156 No_date   36:05   29.38  n/a
                        + 02:DESIRE     24.00    2.012 No_date   28:00   40.77  n/a
                        + 04:JO-OVF      .00     .000 No_date    0:00     .00  n/a
                        + 05:JOCK_P   252.00    8.221 No_date   28:40   50.08  n/a
       [DT= 5.00]  SUM=  03:SN_DE   55468.00  112.074 No_date   36:00   29.48  n/a
 025:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD               03:SN_DE   55468.00  112.074 No_date   36:00   29.48  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_DE.025
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
 025:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL    -> 03:SN_DE   55468.00  112.074 No_date   36:00   29.48  n/a
       [RDT= 5.00] out<- 01:N1      55468.00  112.070 No_date   36:05   29.48  n/a
       [L/S/n=  563./ .967/.045]
       {Vmax= 2.709:Dmax=  .034}
#******************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#******************************************************************************
 025:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:S-2      102.00    3.924 No_date   28:20   30.12 .405
       [CN= 72.0:  N= 3.00]
       [Tp=  .40:DT= 5.00]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
 025:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD                01:N1      55468.00  112.070 No_date   36:05   29.48  n/a
                        + 02:S-2       102.00    3.924 No_date   28:20   30.12  n/a
       [DT= 5.00]  SUM=  03:SN_N1   55570.01  112.351 No_date   36:05   29.48  n/a
 025:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD               03:SN_N1   55570.01  112.351 No_date   36:05   29.48  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_N1.025
       remark:Total Flows at Rideau River
  ** END OF RUN :   99

*******************************************************************************






 RUN:COMMAND#
 100:0001----------------------------------------------------------------------
     START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 100 ]
#******************************************************************************
#  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
#  Date        : October 2006
#  Modeller    : [Navin Gautam/ Original by Ana M Paerez]
#  Company     : Stantec.
#  License #   :  3824306
#******************************************************************************
#-----------------|------------------------------------------------------------|
 100:0002----------------------------------------------------------------------
     READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
 100:0003----------------------------------------------------------------------
     MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
 100:0004----------------------------------------------------------------------
     DEFAULT VALUES
       Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\MODIFIED.VAL
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [2005 City of Ottawa Sewer Design Guideline]
                  PARAMETERS USED IN THE DESIGN STANDHYD COMMAND FOR OTTAWA.
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   2.50 mm] [N= 3.00]
 100:0005----------------------------------------------------------------------
     COMPUTE API
       [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
       {APImax=119.84:  APIavg= 69.19:  APImin= 44.87}
#******************************************************************************
#
#             JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
#                    PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
#
# Version: Draft Final Report, October 2006
# Revision History
# -Draft Interim Condition Report, Nov. 2005
#******************************************************************************
# Assumptions
# - All catchments are assumed to be developed except S-1, S-2, and SW-1a
# - SWM facilities are modeled
# - Rating curves were estimated based on existing reports and modeling for the
#   proposed SWM facilities
# - The rating curve for the existing Kennedy Burnett SWM Facility was obtained
#   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- R
#   Municipality of Ottawa Carleton, March 1983
# - River routing modeled
# - River cross sections obtained from RVCA's HEC-RAS hydraulic model
#-----------------|------------------------------------------------------------|
# Parameters
# - Design Storms: 2,5,10,25,50 &100yr events: 24hr SCS (DT=10min)-model compa
# - Impervious area weighted based on: rural subdivision @20%, urban @55%
# - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
# - Time to peak using Uplands Method
#-----------------|------------------------------------------------------------|
#******************************************************************************
#Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
#******************************************************************************
 100:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     READ HYD               01:S_N2    52483.01  141.853 No_date   32:50   38.75  n/a
       Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-S_N2.100
       Comment  = N2
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
 100:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL    -> 01:S_N2    52483.01  141.853 No_date   32:50   38.75  n/a
       [RDT=10.00] out<- 04:N_416   52483.01  137.555 No_date   33:30   38.75  n/a
       [L/S/n= 2327./ .050/.055]
       {Vmax=  .799:Dmax= 3.792}
#******************************************************************************
#     Catchment SW-1a
#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#     - Undeveloped agricultural land
#******************************************************************************
 100:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_1a    546.00    7.343 No_date   31:10   40.95 .462
       [CN= 72.0:  N= 3.00]
       [Tp= 2.79:DT= 5.00]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
 100:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD                04:N_416   52483.01  137.555 No_date   33:30   38.75  n/a
                        + 02:SW_1a     546.00    7.343 No_date   31:10   40.95  n/a
       [DT= 5.00]  SUM=  03:SN_416 53029.01  143.235 No_date   33:30   38.77  n/a
 100:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD               03:SN_416 53029.01  143.235 No_date   33:30   38.77  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_416.100
       remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
 100:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL    -> 03:SN_416 53029.01  143.235 No_date   33:30   38.77  n/a
       [RDT= 5.00] out<- 01:N_OK    53029.01  143.199 No_date   33:35   38.77  n/a
       [L/S/n=  497./ .302/.055]
       {Vmax= 1.722:Dmax= 3.248}
#******************************************************************************
#     Catchment OKEEFE
#     - To O'Keefe drain (north of the Jock)
#     - Developed with assumed 43% imp.
#******************************************************************************
 100:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:OKEEFE   448.00   38.901 No_date   28:15   61.25 .692
       [XIMP=.43:TIMP=.43]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1728.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#******************************************************************************
#     Okeefe Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#    and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#******************************************************************************
 100:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:OKEEFE   448.00   38.901 No_date   28:15   61.25  n/a
       [RDT= 5.00] out<- 04:P_OKE      51.38     .200 No_date   24:45   61.25  n/a
             overflow <= 09:ok-OVF   396.62   38.659 No_date   28:15   61.25  n/a
     {MxStoUsed=.1720E+01, TotOvfVol=.2429E+02, N-Ovf=    2, TotDurOvf=   16.hrs}
 100:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD                01:N_OK    53029.01  143.199 No_date   33:35   38.77  n/a
                        + 04:P_OKE      51.38     .200 No_date   24:45   61.25  n/a
                        + 09:ok-OVF   396.62   38.659 No_date   28:15   61.25  n/a
       [DT= 5.00]  SUM=  03:SN_OK   53477.02  145.022 No_date   33:30   38.96  n/a
 100:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD               03:SN_OK   53477.02  145.022 No_date   33:30   38.96  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_OK.100
       remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
 100:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL    -> 03:SN_OK   53477.02  145.022 No_date   33:30   38.96  n/a
       [RDT= 5.00] out<- 01:N_FO    53477.02  144.892 No_date   33:40   38.96  n/a
       [L/S/n= 1183./ .076/.035]
       {Vmax= 1.826:Dmax=  .032}
#******************************************************************************
#     Catchment FOSTER
#     - To Foster ditch (north of the Jock)
#     - Partially developed (medium density); remaining agricultural
#******************************************************************************
 100:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:FOSTER   373.00   38.921 No_date   28:05   65.13 .735
       [XIMP=.55:TIMP=.55]
       [LOSS= 2 :CN= 74.0]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1577.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#******************************************************************************
#     Foster Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#    and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#******************************************************************************
 100:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:FOSTER   373.00   38.921 No_date   28:05   65.13  n/a
       [RDT= 5.00] out<- 04:P_FOS      48.28     .200 No_date   24:30   65.13  n/a
             overflow <= 09:FO-OVF   324.72   38.557 No_date   28:10   65.13  n/a
     {MxStoUsed=.1720E+01, TotOvfVol=.2115E+02, N-Ovf=    2, TotDurOvf=   16.hrs}
 100:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD                01:N_FO    53477.02  144.892 No_date   33:40   38.96  n/a
                        + 04:P_FOS      48.28     .200 No_date   24:30   65.13  n/a
                        + 09:FO-OVF   324.72   38.557 No_date   28:10   65.13  n/a
       [DT= 5.00]  SUM=  03:SN_FO   53850.02  146.381 No_date   33:40   39.14  n/a
 100:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD               03:SN_FO   53850.02  146.381 No_date   33:40   39.14  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_FO.100
       remark:Total Flows at Foster Drain
#
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
 100:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL    -> 03:SN_FO   53850.02  146.381 No_date   33:40   39.14  n/a
       [RDT= 5.00] out<- 01:N_CE    53850.02  146.383 No_date   33:40   39.14  n/a
       [L/S/n=  159./ .082/.035]
       {Vmax= 3.197:Dmax=  .006}
#******************************************************************************
#     Catchment S-1
#     - To Jock River (north and south of Jock)
#     - Primarily agricultural fields; portion of sand quarry
#******************************************************************************
 100:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:S-1      245.00    7.588 No_date   29:10   45.94 .519
       [CN= 77.0:  N= 3.00]
       [Tp= 1.10:DT= 5.00]
```

```
         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
         [InterEventTime=  12.00]
 100:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD               01:N_CE   53850.02  146.383 No_date   33:40   39.14  n/a
                          + 02:S-1      245.00    7.588 No_date   29:10   45.94  n/a
       [DT= 5.00]  SUM=  03:SN_CE  54095.02  147.622 No_date   33:35   39.17  n/a
 100:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD              03:SN_CE  54095.02  147.622 No_date   33:35   39.17  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CE.100
       remark:Total Flows at Cedarview Road
#
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
#
 100:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 03:SN_CE  54095.02  147.622 No_date   33:35   39.17  n/a
       [RDT= 5.00] out<- 01:N_WC   54095.02  147.547 No_date   33:45   39.17  n/a
       [L/S/n=  825./ .010/.035]
       {Vmax= 1.282:Dmax=  .003}
#*****************************************************************************
#     Catchment W_CLAR
#     - To West Clarke Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#*****************************************************************************
 100:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD02:W_CLAR    243.00   27.368 No_date   28:05   60.27 .680
       [XIMP=.43:TIMP=.43]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1273.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
#*****************************************************************************
#     West Clarke Pond 2
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*****************************************************************************
 100:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 02:W_CLAR    243.00   27.368 No_date   28:05   60.27  n/a
       [RDT= 5.00] out<- 08:MS_P2      28.68     .110 No_date   24:40   60.26  n/a
             overflow <= 09:P2-OVF    214.32   26.785 No_date   28:05   60.27  n/a
      {MxStoUsed=.9600E+00, TotOvfVol=.1292E+02, N-Ovf=    2, TotDurOvf=   16.hrs}
 100:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD               08:MS_P2      28.68     .110 No_date   24:40   60.26  n/a
                          + 09:P2-OVF    214.32   26.785 No_date   28:05   60.27  n/a
                          + 01:N_WC   54095.02  147.547 No_date   33:45   39.17  n/a
       [DT= 5.00]  SUM=  04:SN_WC  54338.02  148.477 No_date   33:45   39.27  n/a
 100:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD              04:SN_WC  54338.02  148.477 No_date   33:45   39.27  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_WC.100
       remark:Total Flows at West Clarke Pond Outlet
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
 100:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 04:SN_WC  54338.02  148.477 No_date   33:45   39.27  n/a
       [RDT= 5.00] out<- 01:N_KB   54338.02  147.747 No_date   33:55   39.27  n/a
       [L/S/n= 1020./ .050/.035]
       {Vmax=  .980:Dmax= 3.891}
#*****************************************************************************
#     Catchment KEN_BU
#     - To Kennedy-Burnett SWM Facility
#     - Outlets to Fraser-Clarke drain (north of the Jock)
#     - Medium density residential subdivision
#*****************************************************************************
 100:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD02:KEN_BU    281.00   35.633 No_date   28:05   64.01 .723
       [XIMP=.55:TIMP=.55]
       [LOSS= 2 :CN= 71.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1369.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 41.38: SMAX=275.84: SK= .010]
#*****************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#     - Rating curve obtained from URTKBP
#     - Tributary Drainage Area to Pond = 160 ha
#*****************************************************************************
 100:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 02:KEN_BU    281.00   35.633 No_date   28:05   64.01  n/a
       [RDT= 5.00] out<- 05:KEN_P     132.84    1.150 No_date   27:45   64.01  n/a
             overflow <= 06:KEN-OV    148.16   34.267 No_date   28:05   64.01  n/a
      {MxStoUsed=.2330E+01, TotOvfVol=.9483E+01, N-Ovf=    3, TotDurOvf=    5.hrs}
#*****************************************************************************
#     Catchment FRASER
#     - To Fraser-Clarke drain (north of the Jock)
#     - Developed land with assumed 43% imp.
#*****************************************************************************
 100:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD07:FRASER     90.00    9.664 No_date   28:05   55.76 .630
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 80.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 775.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 26.32: SMAX=175.50: SK= .010]
 100:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 07:FRASER     90.00    9.664 No_date   28:05   55.76  n/a
       [RDT= 5.00] out<- 08:MS_P2      11.04     .040 No_date   26:20   55.76  n/a
             overflow <= 09:P2-OVF     78.96    9.261 No_date   28:05   55.76  n/a
      {MxStoUsed=.3599E+00, TotOvfVol=.4402E+01, N-Ovf=    2, TotDurOvf=   14.hrs}
 100:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD               05:KEN_P     132.84    1.150 No_date   27:45   64.01  n/a
                          + 06:KEN-OV    148.16   34.267 No_date   28:05   64.01  n/a
                          + 08:MS_P2      11.04     .040 No_date   26:20   55.76  n/a
                          + 09:P2-OVF     78.96    9.261 No_date   28:05   55.76  n/a
                          + 01:N_KB   54338.02  147.747 No_date   33:55   39.27  n/a
       [DT= 5.00]  SUM=  04:SN_KB  54709.01  149.236 No_date   33:55   39.42  n/a
 100:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD              04:SN_KB  54709.01  149.236 No_date   33:55   39.42  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_KB.100
       remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
#
 100:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 04:SN_KB  54709.01  149.236 No_date   33:55   39.42  n/a
  *    [RDT= 5.00] out<- 01:N_TO   54709.01  148.001 No_date   35:05   39.42  n/a
       [L/S/n=  650./ .050/.035]
       {Vmax=  .281:Dmax=  .999}
#*****************************************************************************
#     Catchment TODD
#     - To Todd Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#*****************************************************************************
 100:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD03:TODD      195.00   22.652 No_date   28:05   61.25 .692
       [XIMP=.43:TIMP=.43]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1140.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
#*****************************************************************************
#     Todd Pond 3
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 3 = 193 ha
#*****************************************************************************
 100:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 03:TODD      195.00   22.652 No_date   28:05   61.25  n/a
       [RDT= 5.00] out<- 02:MS_P3      21.86     .080 No_date   24:40   61.25  n/a
             overflow <= 09:P3-OVF    173.14   22.231 No_date   28:05   61.25  n/a
      {MxStoUsed=.7796E+00, TotOvfVol=.1060E+02, N-Ovf=    2, TotDurOvf=   16.hrs}
 100:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD               01:N_TO   54709.01  148.001 No_date   35:05   39.42  n/a
                          + 02:MS_P3      21.86     .080 No_date   24:40   61.25  n/a
                          + 09:P3-OVF    173.14   22.231 No_date   28:05   61.25  n/a
       [DT= 5.00]  SUM=  10:SN_TO  54904.01  148.757 No_date   35:05   39.50  n/a
 100:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD              10:SN_TO  54904.01  148.757 No_date   35:05   39.50  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_TO.100
       remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
 100:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 10:SN_TO  54904.01  148.757 No_date   35:05   39.50  n/a
  *    [RDT= 5.00] out<- 01:N_TO   54904.01  148.481 No_date   35:20   39.50  n/a
       [L/S/n=  280./ .033/.045]
       {Vmax=  .714:Dmax= 4.087}
#*****************************************************************************
#     Catchment CORRIG
#     - To Corrigan Drain (south of the Jock)
#     - Primarily Developed (medium density)
#*****************************************************************************
 100:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD02:CORRIG    149.00   19.025 No_date   28:05   62.15 .702
       [XIMP=.45:TIMP=.45]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 997.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
#*****************************************************************************
#     Corrigan Pond 1
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
#*****************************************************************************
 100:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 02:CORRIG    149.00   19.025 No_date   28:05   62.15  n/a
       [RDT= 5.00] out<- 05:MS_P1      16.12     .060 No_date   24:20   62.15  n/a
             overflow <= 04:P1-OVF    132.88   18.764 No_date   28:05   62.15  n/a
      {MxStoUsed=.5800E+00, TotOvfVol=.8259E+01, N-Ovf=    2, TotDurOvf=   16.hrs}
 100:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD               01:N_TO   54904.01  148.481 No_date   35:20   39.50  n/a
                          + 04:P1-OVF    132.88   18.764 No_date   28:05   62.15  n/a
                          + 05:MS_P1      16.12     .060 No_date   24:20   62.15  n/a
       [DT= 5.00]  SUM=  03:SN_CO  55053.02  149.062 No_date   35:20   39.56  n/a
 100:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD              03:SN_CO  55053.02  149.062 No_date   35:20   39.56  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CO.100
       remark:Total Flows at Corrigan Drain
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
 100:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 03:SN_CO  55053.02  149.062 No_date   35:20   39.56  n/a
       [RDT= 5.00] out<- 01:N_MI   55053.02  149.053 No_date   35:25   39.56  n/a
       [L/S/n=  580./ .445/.045]
       {Vmax= 2.191:Dmax= 2.152}
#*****************************************************************************
#     Catchment MILLS
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#*****************************************************************************
 100:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD02:MILLS     139.00   15.807 No_date   28:05   56.87 .642
       [XIMP=.38:TIMP=.38]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 963.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#     Chapman Mills SWM Pond
#     - Rating curve obtained from CCL hydraulic modeling
#*****************************************************************************
 100:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 02:MILLS     139.00   15.807 No_date   28:05   56.87  n/a
       [RDT= 5.00] out<- 05:MILL_P    128.54    4.050 No_date   28:15   56.87  n/a
             overflow <= 04:MIL-OV     10.46    7.805 No_date   28:15   56.87  n/a
      {MxStoUsed=.2310E+01, TotOvfVol=.5946E+00, N-Ovf=    2, TotDurOvf=    1.hrs}
 100:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD               01:N_MI   55053.02  149.053 No_date   35:25   39.56  n/a
                          + 04:MIL-OV     10.46    7.805 No_date   28:15   56.87  n/a
                          + 05:MILL_P    128.54    4.050 No_date   28:15   56.87  n/a
       [DT= 5.00]  SUM=  03:SN_MI  55192.02  149.684 No_date   35:20   39.61  n/a
 100:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD              03:SN_MI  55192.02  149.684 No_date   35:20   39.61  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_MI.100
       remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
 100:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 03:SN_MI  55192.02  149.684 No_date   35:20   39.61  n/a
       [RDT= 5.00] out<- 01:N_DE   55192.02  148.919 No_date   36:00   39.61  n/a
       [L/S/n= 1962./ .223/.045]
       {Vmax=  .940:Dmax=  .152}
#*****************************************************************************
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#*****************************************************************************
 100:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD02:DESIRE     24.00    2.882 No_date   28:00   53.12 .600
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
#*****************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#*****************************************************************************
 100:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS STANDHYD03:JOCKVA    252.00   30.693 No_date   28:05   62.70 .708
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1296.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#*****************************************************************************
 100:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE RESERVOIR -> 03:JOCKVA    252.00   30.693 No_date   28:05   62.70  n/a
       [RDT= 5.00] out<- 05:JOCK_P    252.00   11.951 No_date   28:35   62.70  n/a
             overflow <= 04:JO-OVF       .00     .000 No_date    0:00     .00  n/a
      {MxStoUsed=.6202E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 100:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD               01:N_DE   55192.02  148.919 No_date   36:00   39.61  n/a
                          + 02:DESIRE     24.00    2.882 No_date   28:00   53.12  n/a
                          + 04:JO-OVF       .00     .000 No_date    0:00     .00  n/a
                          + 05:JOCK_P    252.00   11.951 No_date   28:35   62.70  n/a
       [DT= 5.00]  SUM=  03:SN_DE  55468.01  150.033 No_date   36:00   39.72  n/a
 100:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD              03:SN_DE  55468.01  150.033 No_date   36:00   39.72  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_DE.100
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
 100:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ROUTE CHANNEL    -> 03:SN_DE  55468.01  150.033 No_date   36:00   39.72  n/a
       [RDT= 5.00] out<- 01:N1     55468.01  150.023 No_date   36:05   39.72  n/a
       [L/S/n=  563./ .967/.045]
       {Vmax= 2.709:Dmax=  .046}
#*****************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#*****************************************************************************
 100:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      CONTINUOUS NASHYD  02:S-2      102.00    5.616 No_date   28:15   40.95 .462
       [CN= 72.0: N= 3.00]
       [Tp=  .40:DT= 5.00]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
 100:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      ADD HYD               01:N1     55468.01  150.023 No_date   36:05   39.72  n/a
                          + 02:S-2      102.00    5.616 No_date   28:15   40.95  n/a
       [DT= 5.00]  SUM=  03:SN_N1  55570.01  150.390 No_date   36:05   39.72  n/a
 100:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
      SAVE HYD              03:SN_N1  55570.01  150.390 No_date   36:05   39.72  n/a
       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_N1.100
       remark:Total Flows at Rideau River
#############################################################################
 100:0002---------------------------------------------------------------------
       FINISH
-----------------------------------------------------------------------------
*****************************************************************************
      WARNINGS / ERRORS / NOTES
      -------------------------
 002:0037 ROUTE CHANNEL   ->
       *** WARNING: TRAVEL TIME TABLE was exceeded
       *** WARNING: TRAVEL TIME TABLE was exceeded
       *** WARNING: TRAVEL TIME TABLE was exceeded
       *** WARNING: TRAVEL TIME TABLE was exceeded
   Simulation ended on 2006-11-15     at 14:33:35
=============================================================================
```

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment C

Model 3 – Jock River Reach One Update

JFSA, 2021

SWMHYMO Input & Summary files

```
20     Metric units / ID numbers OFF
*#******************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#******************************************************************************
*#  Project Name: [Jock River]     Project Number: [1474-16]
*#  Date          : 04-03-2021
*#  Modeller      : [M M]
*#  Company       : JFSAinc.
*#  License #     :  2549237
*#******************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
*# 2020-12-01 correct pond curve values
*# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and
LGI up to 700m
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"]
,NHYDin=["SN_TO"]) from 0.033 %(as per Stantec Report 2007) to 0.05 %so the model
will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs
aren't well suited to really flat slopes.
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"]
,NHYDin=["SN_CE"]) from 0.01 %(as per Stantec Report 2007) to 0.0255 %so the model
will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs
aren't well suited to really flat slopes.
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ---------------------------------------------------------------------------
*
*START                  TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                       ["XAVG0315.STM"] average storm data a 15 minute time step
*                       The above rainf file is an average of the JFSA gauge data
*                       with the City of Ottawa rainfall data collected during
*                       the same period.
*% 2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                  TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[2]
                       ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
READ STORM             STORM_FILENAME=["storm.001"]
*%-----------------|-----------------------------------------------------------|
MODIFY STORM           ICASEms=[1],  NSHIFT=[96],
                       RedFACT=[1],
*%-----------------|-----------------------------------------------------------|
DEFAULT VALUES         ICASEdef=[1],  read and print values
                       DEFVAL_FILENAME=["CitiGate.DEF"]
*%-----------------|-----------------------------------------------------------|
COMPUTE API            APII=[50],  APIK=[.85]/day
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD      NHYD=["JR_HW"], DT=[1]min, AREA=[3680](ha),
                       DWF=[0](cms),  CN/C=[64], IA=[2.5](mm),
                       N=[3.0],  TP=[7.13]hrs,
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),
                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
```

```
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_13"], DT=[1]min, AREA=[971](ha),
                    DWF=[0](cms),  CN/C=[61], IA=[2.5](mm),
                    N=[3.0], TP=[3.76]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_GWM"], DT=[1]min, AREA=[3074](ha),
                    DWF=[0](cms),  CN/C=[55], IA=[2.5](mm),
                    N=[3], TP=[11.33]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_ASH"], DT=[1]min, AREA=[1781](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[3.91]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_11"], DT=[1]min, AREA=[500](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[1.24]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NN_CK"], DT=[1]min, AREA=[1917](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
```

```
                            N=[3.0], TP=[5.29]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_10"], DT=[1]min, AREA=[5666](ha),
                            DWF=[0](cms),   CN/C=[72], IA=[2.5](mm),
                            N=[3.0], TP=[8.00]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["KG_CK"], DT=[1]min, AREA=[8376](ha),
                            DWF=[0](cms),   CN/C=[66], IA=[2.5](mm),
                            N=[3.0], TP=[11.66]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_9"], DT=[1]min, AREA=[1132](ha),
                            DWF=[0](cms),   CN/C=[70], IA=[2.5](mm),
                            N=[3.0], TP=[2.51]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NC_CK"], DT=[1]min, AREA=[4464](ha),
                            DWF=[0](cms),   CN/C=[62], IA=[2.5](mm),
                            N=[3.0], TP=[11.32]hrs,
                            Continuous simulation parameters:
```

```
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_8"],  DT=[1]min,  AREA=[131](ha),
                            DWF=[0](cms),   CN/C=[63],  IA=[2.5](mm),
                            N=[3.0],  TP=[0.90]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["HB_DR"],  DT=[1]min,  AREA=[3854](ha),
                            DWF=[0](cms),   CN/C=[66],  IA=[2.5](mm),
                            N=[3.0],  TP=[8.42]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_7"],  DT=[1]min,  AREA=[3197](ha),
                            DWF=[0](cms),   CN/C=[57],  IA=[2.5](mm),
                            N=[3.0],  TP=[6.65]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_6"],  DT=[1]min,  AREA=[165](ha),
                            DWF=[0](cms),   CN/C=[67],  IA=[2.5](mm),
                            N=[3.0],  TP=[4.18]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
```

```
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%----------------|----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%----------------|----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["VG_DR"], DT=[1]min, AREA=[1332](ha),
                        DWF=[0](cms),   CN/C=[72], IA=[2.5](mm),
                        N=[3.0], TP=[5.95]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%----------------|----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["SW_5"], DT=[1]min, AREA=[224](ha),
                        DWF=[0](cms),   CN/C=[77], IA=[2.5](mm),
                        N=[3.0], TP=[0.75]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%----------------|----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%----------------|----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["FL_CK"], DT=[1]min, AREA=[4945](ha),
                        DWF=[0](cms),   CN/C=[74], IA=[2.5](mm),
                        N=[3.0], TP=[4.45]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%----------------|----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["SW_5A2"], DT=[1]min, AREA=[20](ha),
                        DWF=[0](cms),   CN/C=[81], IA=[2.5](mm),
                        N=[3.0], TP=[0.62]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%----------------|----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%----------------|----------------------------------------------------------|
```

```
CONTINUOUS NASHYD    NHYD=["SW_5A1"], DT=[1]min, AREA=[1412](ha),
                     DWF=[0](cms), CN/C=[75], IA=[2.5](mm),
                     N=[3.0], TP=[8.00]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr), END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_4"], DT=[1]min, AREA=[585](ha),
                     DWF=[0](cms), CN/C=[81], IA=[2.5](mm),
                     N=[3.0], TP=[1.75]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr), END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["LM_CK"], DT=[1]min, AREA=[1021](ha),
                     DWF=[0](cms), CN/C=[80], IA=[2.5](mm),
                     N=[3.0], TP=[2.46]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr), END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_2"], DT=[1]min, AREA=[177](ha),
                     DWF=[0](cms), CN/C=[77], IA=[2.5](mm),
                     N=[3.0], TP=[0.75]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr), END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SM_DR"], DT=[1]min, AREA=[1122](ha),
                     DWF=[0](cms), CN/C=[81], IA=[2.5](mm),
                     N=[3.0], TP=[3.25]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr), END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["MO_DR"], DT=[1]min, AREA=[2737](ha),
                     DWF=[0](cms), CN/C=[76], IA=[2.5](mm),
                     N=[3.0], TP=[3.03]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
*     -JFSA 2020 replaced SW_1 with a detailed model from Stantec Report 2007
*CONTINUOUS NASHYD   NHYD=["SW_1"], DT=[1]min, AREA=[3176](ha),
*                     DWF=[0](cms),   CN/C=[78], IA=[2.5](mm),
*                     N=[3.0], TP=[3.56]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
*#
*# Routing hydrographs
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD                   NHYDsum=["S_N13"], NHYDs to add=["JR_HW"+"SW_13"]
*%-----------------|--------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL             NHYDout=["N13A"] ,NHYDin=["S_N13"],
                          RDT=[1](min),
                          CHLGTH=[9074](m),   CHSLOPE=[0.0220](%),
                                              FPSLOPE=[0.0220](%),
                          SECNUM=[1.0],       NSEG=[1]
                          ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                                [-40, 132.5]
                                [-30, 132]
                                [-25, 131.5]
                                [-13, 130]
                                [-8, 127.00]
                                [-7, 126.50]
                                [-6, 126]
                                [-5.5, 125.50]
                                [0, 123.75]
                                [4.5, 125.50]
                                [6, 126]
                                [7.5, 126.5]
                                [9, 127]
                                [10, 127.5]
                                [11.5, 128.0]
                                [15.5, 129.5]
*%-----------------|--------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD                   NHYDsum=["SN13A"], NHYDs to add=["N13A"+"JR_GWM"]
*%-----------------|--------------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR           NHYDout=["RES_GM"] ,NHYDin=["SN13A"],
                          RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                              (cms) - (ha-m)
                                           [    0.0 ,   0.0 ]
                                           [1.991,  2.144     ]
                                           [2.693,  39.826    ]
                                           [3.509,  81.697    ]
                                           [4.578,  318.774   ]
                                           [5.647,  594.947   ]
                                           [7.109,  910.219   ]
                                           [8.616,  1264.589   ]
                                           [10.371,  1658.057   ]
                                           [12.402,  2090.622 ]
                                           [22.056,  3462.487 ]
                                           [    -1   ,    -1   ]  (max twenty pts)
                                 NHYDovf=["        "] ,
*%-----------------|-----------------------------------------------------------|
*#
SAVE HYD               NHYD=["RES_GM"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                       HYD_FILENAME=["H_RESGM"]
                       HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-----------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL          NHYDout=["N12"] ,NHYDin=["RES_GM"] ,
                       RDT=[1](min),
                       CHLGTH=[5926](m),   CHSLOPE=[0.0759](%),
                                            FPSLOPE=[0.0759](%),
                       SECNUM=[1.0],         NSEG=[1]
                       ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                             [-40, 132.5]
                             [-30, 132]
                             [-25, 131.5]
                             [-13, 130]
                             [-8, 127.00]
                             [-7, 126.50]
                             [-6, 126]
                             [-5.5, 125.50]
                             [0, 123.75]
                             [4.5, 125.50]
                             [6, 126]
                             [7.5, 126.5]
                             [9, 127]
                             [10, 127.5]
                             [11.5, 128.00]
                             [15.5, 129.5]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD                NHYDsum=["S_N12"], NHYDs to add=["N12"+"JR_ASH"]
SAVE HYD               NHYD=["S_N12"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                       HYD_FILENAME=["H_SN12"]
                       HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*ROUTE CHANNEL          NHYDout=["N11"] ,NHYDin=["S_N12"] ,
*                       RDT=[1](min),
*                       CHLGTH=[972](m),   CHSLOPE=[0.0514](%),
*                                            FPSLOPE=[0.0514](%),
*                       SECNUM=[1.0],         NSEG=[1]
*                       ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
*                       ( DISTANCE (m), ELEVATION (m))=
```

```
*                                [-40, 132.5]
*                                [-30, 132]
*                                [-25, 131.5]
*                                [-13, 130]
*                                [-8, 127.00]
*                                [-7, 126.50]
*                                [-6, 126]
*                                [-5.5, 125.50]
*                                [0, 123.75]
*                                [4.5, 125.50]
*                                [6, 126]
*                                [7.5, 126.5]
*                                [9, 127]
*                                [10, 127.5]
*                                [11.5, 128.00]
*                                [15.5, 129.5]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL           NHYDout=["Dum11"] ,NHYDin=["S_N12"] ,
                        RDT=[1](min),
                        CHLGTH=[972](m),   CHSLOPE=[0.054](%),
                                           FPSLOPE=[0.054](%),
                        SECNUM=[1.0],      NSEG=[1]
                        ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                              [-40, 132.5]
                              [-30, 132]
                              [-25, 131.5]
                              [-13, 130]
                              [-8, 127.00]
                              [-7, 126.50]
                              [-6, 126]
                              [-5.5, 125.50]
                              [0, 123.75]
                              [4.5, 125.50]
                              [6, 126]
                              [7.5, 126.5]
                              [9, 127]
                              [10, 127.5]
                              [11.5, 128.00]
                              [15.5, 129.5]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD                 NHYDsum=["S_N11"], NHYDs to add=["Dum11"+"SW_11"+"NN_CK"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL           NHYDout=["N10"] ,NHYDin=["S_N11"] ,
                        RDT=[1](min),
                        CHLGTH=[14028](m),   CHSLOPE=[0.1568](%),
                                             FPSLOPE=[0.1568](%),
                        SECNUM=[1.0],        NSEG=[5]
                        ( SEGROUGH, SEGDIST (m))=
                         [0.04,-52.82
                          0.1,-6.47
                          -0.05,6.47
                          0.1,45.36
                          0.04,423.88] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                              [-226.24 ,112.50]
```

```
                                 [-167.50 ,111.50]
                                 [-106.81 ,111.00]
                                 [-92.37 ,110.00]
                                 [-52.82 ,109.00]
                                 [-24.90, 109.00]
                                 [-17.02, 108.50]
                                 [-6.47, 108.00]
                                 [6.47, 108.00]
                                 [15.67, 108.50]
                                 [18.95, 109.00]
                                 [45.36, 109.50]
                                 [120.79, 110.00]
                                 [145.72, 111.00]
                                 [181.56, 111.50]
                                 [423.88, 112.50]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD               NHYDsum=["S_N10"], NHYDs to add=["N10"+"SW_10"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD              NHYD=["S_N10"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                      HYD_FILENAME=["H_SN10"]
                      HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|-------------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD               NHYDsum=["S_N10A"], NHYDs to add=["S_N10"+"KG_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL         NHYDout=["N9"] ,NHYDin=["S_N10A"] ,
                      RDT=[1](min),
                      CHLGTH=[3982](m),   CHSLOPE=[0.0753](%),
                                           FPSLOPE=[0.0753](%),
                      SECNUM=[1.0],        NSEG=[4]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.04,-30.27
                         0.05,-18.42
                        -0.05,18.42
                        0.04,131.58] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                                 [-446.74, 106.00]
                                 [-415.68, 105.50]
                                 [-285.40, 105.00]
                                 [-173.77, 104.50]
                                 [-144.95, 104.00]
                                 [-111.18, 103.50]
                                 [-94.06, 103.00]
                                 [-71.02, 102.50]
                                 [-30.27, 102.00]
                                 [-19.33, 100.00]
                                 [-18.42, 99.50]
                                 [18.42, 99.50]
                                 [20.77, 100.00]
                                 [27.93, 101.00]
                                 [52.29, 101.00]
                                 [68.80, 101.50]
                                 [79.66, 103.00]
                                 [91.50, 103.50]
                                 [131.58, 104.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
```

```
*#
ADD HYD              NHYDsum=["S_N9"], NHYDs to add=["N9"+"SW_9"+"NC_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL        NHYDout=["N8"] ,NHYDin=["S_N9"] ,
                     RDT=[1](min),
                     CHLGTH=[2269](m),   CHSLOPE=[0.0882](%),
                                          FPSLOPE=[0.0882](%),
                     SECNUM=[1.0],        NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.1,-17.99
                       -0.045,17.31
                       0.1,456.58] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                             [-201.19,100.50]
                             [-135.21, 100.00]
                             [-94.83, 99.50]
                             [-67.05, 99.00]
                             [-17.99, 98.50]
                             [-16.02, 98.00]
                             [-13.95, 97.50]
                             [13.95, 97.50]
                             [15.64, 98.00]
                             [17.31, 98.50]
                             [162.02, 98.50]
                             [172.89 ,99.00]
                             [314.38, 99.00]
                             [343.78, 99.50]
                             [365.67, 100.00]
                             [376.68, 100.00 ]
                             [393.11, 99.50]
                             [404.97, 99.50]
                             [431.70, 100.00]
                             [456.58, 100.50 ]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD              NHYDsum=["S_N8"], NHYDs to add=["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL        NHYDout=["N7"] ,NHYDin=["S_N8"],
                     RDT=[1](min),
                     CHLGTH=[3750](m),   CHSLOPE=[0.0533](%),
                                          FPSLOPE=[0.0533](%),
                     SECNUM=[1.0],        NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.12,-18.11
                       -0.07,17.22
                       0.12,590.05] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                             [-433.21, 102.00]
                             [-425.34, 101.50]
                             [-377.56, 101.50]
                             [-366.23, 101.00]
                             [-202.60, 100.50]
                             [-96.25, 99.50]
                             [-68.36 99.00]
                             [-18.11, 98.50]
                             [-13.81, 97.50]
```

```
                              [13.81, 97.50]
                              [17.22, 98.50]
                              [161.95, 98.50]
                              [173.11, 99.00]
                              [314.05, 99.00]
                              [365.52, 100.00]
                              [404.70, 99.50]
                              [476.74, 100.50]
                              [502.31, 101.00]
                              [584.69, 101.00]
                              [585.79, 101.00]
                              [590.05, 102.00]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD                 NHYDsum=["S_N7"], NHYDs to add=["N7"+"SW_7"]
*%-----------------|------------------------------------------------------------|
SAVE HYD                NHYD=["S_N7"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                        HYD_FILENAME=["H_SN7"]
                        HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|------------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR         NHYDout=["RES_RF"] ,NHYDin=["S_N7"] ,
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [   0.0 ,      0.0 ]
                                        [0.9051,     2.40]
                                        [2.907,      4.13]
                                        [9.744,      9.18]
                                        [20.304,    14.96]
                                        [34.167,   310.21]
                                        [74.993,   605.46]
                                        [104.876,  900.71]
                                        [140.56,  2892.00]
                                        [225.00,  3615.63]
                                        [   -1   ,   -1   ]  (max twenty pts)
                              NHYDovf=["       "] ,
*%-----------------|------------------------------------------------------------|
SAVE HYD                NHYD=["RES_RF"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                        HYD_FILENAME=["H_ResRF"]
                        HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL           NHYDout=["N6"] ,NHYDin=["RES_RF"] ,
                        RDT=[1](min),
                        CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                           FPSLOPE=[0.0818](%),
                        SECNUM=[1.0],      NSEG=[5]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.025,-70.8
                          0.1,-23.9
                          -0.05,23.9
                          0.06,39.8
```

```
                        0.05,96.3] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                                       [-100.8, 97.00]
                                       [-70.8, 96.50]
                                       [-52.0, 96.00]
                                       [-35.1, 95.50]
                                       [-30.6, 95.00]
                                       [-23.9, 94.54]
                                       [23.9, 94.54]
                                       [39.8, 95.00]
                                       [50.4, 95.50]
                                       [93.5, 96.00]
                                       [94.9, 96.50]
                                       [96.3, 97.00]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD               NHYDsum=["S_N6"], NHYDs to add=["N6"+"SW_6"+"VG_DR"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL         NHYDout=["N5"] ,NHYDin=["S_N6"] ,
                      RDT=[1](min),
                      CHLGTH=[1852](m),   CHSLOPE=[0.0540](%),
                                           FPSLOPE=[0.0540](%),
                      SECNUM=[1.0],        NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.035,-131.59
                        -0.045,48.96
                        0.1,239.04] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                                       [-686.30, 94.50]
                                       [-675.70, 94.00]
                                       [-492.52, 93.00]
                                       [-467.28, 94.00]
                                       [-131.59, 94.00]
                                       [-92.79, 92.50]
                                       [-18.06, 91.00]
                                       [18.06, 91.00]
                                       [43.47, 92.50]
                                       [48.96, 94.00]
                                       [177.43, 94.00]
                                       [239.04,94.50]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD               NHYDsum=["S_N5"], NHYDs to add=["N5"+"SW_5"+"FL_CK"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL         NHYDout=["N5A"] ,NHYDin=["S_N5"] ,
                      RDT=[1](min),
                      CHLGTH=[556](m),   CHSLOPE=[0.0900](%),
                                           FPSLOPE=[0.0900](%),
                      SECNUM=[1.0],        NSEG=[4]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.04,-41.5
                        0.1,-14.0
                        -0.045,14.0
                        0.1,41.1] NSEG times
```

```
                         ( DISTANCE (m), ELEVATION (m))=
                                           [-275.8, 93.00]
                                           [-248.6, 92.50]
                                           [-237.0, 92.00]
                                           [-219.3, 91.50]
                                           [-202.1, 91.50]
                                           [-186.0, 92.00]
                                           [-129.2, 92.00]
                                           [-117.6, 91.50]
                                           [-100.6, 91.00]
                                           [-41.5, 91.00]
                                           [-20.0, 91.00]
                                           [-14.0, 90.54]
                                           [14.0, 90.54]
                                           [15.3, 91.00]
                                           [17.3, 91.50]
                                           [38.4, 92.00]
                                           [39.8, 92.50]
                                           [41.1, 93.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD                  NHYDsum=["S_N5A"], NHYDs to add=["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL            NHYDout=["N4"] ,NHYDin=["S_N5A"] ,
                         RDT=[1](min),
                         CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                             FPSLOPE=[0.0432](%),
                         SECNUM=[1.0],       NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=
                           [0.05,-28.2
                           -0.035,28.2
                           0.05,173.1] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=
                                           [-38.9, 92.00]
                                           [-35.8, 91.50]
                                           [-33.3, 91.00]
                                           [-28.2, 90.50]
                                           [-15.0, 87.48]
                                           [-5.0, 88.34]
                                           [5.0, 86.20]
                                           [15.0, 88.55]
                                           [28.2, 90.50]
                                           [29.7, 91.00]
                                           [46.5, 91.00]
                                           [127.8, 91.00]
                                           [148.7, 91.50]
                                           [173.1, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD                  NHYDsum=["S_N4"], NHYDs to add=["N4"+"SW_4"+"LM_CK"]
SAVE HYD                 NHYD=["S_N4"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["flow at S_N4"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL            NHYDout=["N2"] ,NHYDin=["S_N4"] ,
```

```
                    RDT=[1](min),
                    CHLGTH=[1667](m),   CHSLOPE=[0.0600](%),
                                        FPSLOPE=[0.0600](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-28.0
                      -0.04,28.4
                      0.06,31.7
                      0.04,80.2] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                           [-36.3, 92.00]
                           [-32.6, 91.50]
                           [-30.2, 91.00]
                           [-28.0, 90.45]
                           [-15.0, 87.48]
                           [-5.0, 88.34]
                           [5.0, 86.20]
                           [15.0, 88.55]
                           [28.0, 90.45]
                           [28.4, 90.50]
                           [30.4, 91.00]
                           [31.7, 91.50]
                           [80.2, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD             NHYDsum=["S_N2"], NHYDs to add=["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N2"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                    HYD_FILENAME=["H_SN2"]
                    HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
*#******************************************************************************
*%READ HYD             NHYD=["S_N2"],
*%                    HYD_FILENAME=["H-S_N2"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node 2 routed to Node 416
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
*#
ROUTE CHANNEL       NHYDout=["N_416"] ,NHYDin=["S_N2"] ,
                    RDT=[1](min),
                    CHLGTH=[2327](m),   CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-23.96
                      -0.055,23.96
                      0.075,157.38]   NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-336.97,93.5]
                    [-318.85,93]
                    [-259,92.5]
                    [-133.18,92]
                    [-33.17,92]
                    [-27.21,92]
                    [-26.14,91.5]
                    [-24.99,91]
                    [-23.96,90.5]
                    [-14.33,88.26]
                    [-0.68,88.12]
```

```
                          [14.33,88.26]
                          [23.96,90.5]
                          [32.12,91]
                          [43.74,91.5]
                          [57.09,92]
                          [73.53,92.5]
                          [108.27,93]
                          [125.88,93.5]
                          [144.81,94]
                          [157.38,94.5]
*%-----------------|--------------------------------------------------------------|
*#****************************************************************************
*#     Catchment SW-1a
*#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
*#     - Undeveloped agricultural land
*#****************************************************************************
CONTINUOUS NASHYD         NHYD=["SW_1a"], DT=[1]min, AREA=[536.42](ha),
                          DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                          N=[3], TP=[2.79]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|--------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain before station 7245 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                          LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                          LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
*                          Continuous simulation parameters:
*                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                          InterEventTime=[12](hrs),   END=-1
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD         NHYD=["S-1-Okeefe"], DT=[1]min, AREA=[44.93](ha),
                          DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                          N=[3], TP=[1.049]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|--------------------------------------------------------------|
*COMPUTE DUALHYD           NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                          MajNHYD=["S-1-OkMJ"]
*                          MinNHYD=["S-1-OkMN"]
*                          TMJSTO=[9999999](cu-m)
*%-----------------|--------------------------------------------------------------|
*ADD HYD                   NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|--------------------------------------------------------------|
*ROUTE RESERVOIR           NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                          RDT=[1](min),
*                                TABLE of ( OUTFLOW-STORAGE ) values
*                                            (cms) - (ha-m)
*                                          [ 0.0     , 0.0 ]
```

```
*                                    [  0.5370,  1.7917 ]
*                                    [     -1   ,   -1     ]   (max twenty pts)
*                          NHYDovf=["S-1-OkSovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["SN_416"], NHYDs to add=["N_416"+"SW_1a"+"S-1-Okeefe"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                NHYD=["SN_416"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Highway 416"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node 416 routed to Node at Okeefe drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
*#
ROUTE CHANNEL           NHYDout=["N_OK"] ,NHYDin=["SN_416"] ,
                        RDT=[1](min),
                        CHLGTH=[497](m),   CHSLOPE=[0.3018](%),
                                           FPSLOPE=[0.3018](%),
                        SECNUM=[1.0],         NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.075,-19.40
                          -0.055,19.40
                          0.075,377.02] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                        [-1061.41, 92.50]
                        [-945.91, 92.00]
                        [-783.64, 91.50]
                        [-136.74, 91.00]
                        [-86.04, 91.00]
                        [-20.86, 91.00]
                        [-20.18, 90.50]
                        [-19.40, 90.00]
                        [-11.68, 86.89]
                        [0.00, 86.10]
                        [12.09, 86.81]
                        [19.40, 90.00]
                        [34.68, 90.50]
                        [60.56, 91.00]
                        [170.14, 91.00]
                        [175.05, 90.50]
                        [180.29, 90.00]
                        [193.41, 90.00]
                        [195.98, 90.50]
                        [377.02, 92.50]
*%-----------------|-------------------------------------------------------------|
*#****************************************************************************
*#     Catchment OKEEFE
*#     - To O'Keefe drain (north of the Jock)
*#     - Developed with assumed 43% imp.
*#     - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area
513.02 HA)
*#     - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model
(Citi-Gate 2014).
*%----------------|-------------------------------------------------------------|
*POST DEVELOPMENT CONDITIONS
*%----------------|-------------------------------------------------------------|
*#****************************************************************************
CONTINUOUS NASHYD       NHYD=["O-1"], DT=[1]min, AREA=[63.72](ha),
                        DWF=[0](cms), CN/C=[61], IA=[6.2](mm), N=[3], TP=[.9]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
```

```
*%-----------------|--------------------------------------------------------------------------------------------
-------------------------------|
*ROUTE FLOW THROUGH AREA 0-2
ROUTE CHANNEL           NHYDout=["O-1R"], NHYDin=["O-1"], RDT=[1](min),
                        CHLGTH=[960](m), CHSLOPE=[0.63](%), FPSLOPE=[0.63](%),
                        SECNUM=[1], NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=[0.06,4 -.043,6 0.06,10] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=[0.00, 2.0]
                        [0.0, 2.0]
                        [4.0, 0.0]
                        [6.0, 0.0]
                        [10.0, 2.0]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["O-2"], DT=[1]min, AREA=[28.61](ha),
                        DWF=[0](cms), CN/C=[57], IA=[5.2](mm), N=[3], TP=[1.1]hrs,
                       Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["O-4"], DT=[1]min, AREA=[46.94](ha),
                        DWF=[0](cms), CN/C=[49], IA=[9.2](mm), N=[3], TP=[0.9]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL EXTERNAL FLOW NORTH OF O'KEEFE CT. CROSSING
ADD HYD                 NHYDsum=["OKF-N"], NHYDs to add=["O-1R"+"O-2"+"O-4"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-6
ROUTE CHANNEL           ROUTE CHANNEL NHYDout=["OKF-NR"], NHYDin=["OKF-N"], RDT=[1](min),
                        CHLGTH=[210](m), CHSLOPE=[.81](%), FPSLOPE=[.81](%),
                        SECNUM=[1], NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=[0.043,22.43 -0.043,25.07
                        0.043,45.54] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=[0.00, 3.73]
                        (14.62, 1.56)
                        (18.41, 1.44)
                        (22.43, 0.00)
                        (25.07, 0.70)
                        (29.10, 1.79)
                        (33.73, 2.71)
                        (45.54, 3.58)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["O-6"], DT=[1]min, AREA=[16.46](ha),
                        DWF=[0](cms), CN/C=[43], IA=[9.2](mm), N=[3], TP=[0.7]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-3"], DT=[1](min), AREA=[39.67](ha), XIMP=[0.15],
TIMP=[0.30], DWF=[0](cms),
```

```
                          LOSS=[2], SCS curve number CN=[50], Pervious surfaces:
                          IAper=[4.67](mm), SLPP=[0.32](%),
                          LGP=[440](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                          IAimp=[1.57](mm), SLPI=[0.32](%),
                          LGI=[1880](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-5"], DT=[1](min), AREA=[60.63](ha), XIMP=[0.13],
TIMP=[0.26], DWF=[0](cms),
                          LOSS=[2], SCS curve number CN=[61],
                          Pervious surfaces: IAper=[4.67](mm), SLPP=[1.38](%),
                          LGP=[550](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                          IAimp=[1.57](mm), SLPI=[1.38](%),
                          LGI=[1450](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL EXTERNAL FLOWS WEST OF THE SITE AND NORTH OF O'KEEFE CRT
*%-----------------|-------------------------------------------------------------|
ADD HYD                   NHYDsum=["PT1"], NHYDs to add=["OKF-NR"+"O-3"+"O-5"+"O-6"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD         NHYD=["O-7"], DT=[1]min, AREA=[5.28](ha),
                          DWF=[0](cms), CN/C=[54], IA=[7.5](mm), N=[3], TP=[0.6]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 1 - TOTAL FLOW NORTH OF FALLOWFIELD DR. AND O'KEEFE CRT.
ADD HYD                   NHYDsum=["FF"], NHYDs to add=["PT1"+"O-7"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 1
ROUTE CHANNEL             NHYDout=["DRAIN1"], NHYDin=["FF"], RDT=[1](min),
                          CHLGTH=[302]{m), CHSLOPE=[1.00](%), FPSLOPE=[1.00](%),
                          SECNUM=[1], NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=[0.07,13.45 -0.043,16.55 0.07,30.00] NSEG
                          times
                          ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                          (3.45, 0.60)
                          (13.45, 0.50)
                          (14.45, 0.00)
                          (15.55, 0.00)
                          (16.55, 0.50)
                          (26.55, 0.60)
                          (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD         NHYD=["D1"], DT=[1]min, AREA=[1.17](ha),
                          DWF=[0](cms), CN/C=[84], IA=[9.0](mm), N=[3], TP=[0.28]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
```

```
CONTINUOUS STANDHYD NHYD=["A1"], DT=[1]min, AREA=[2.50](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[223.607](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A1-STR"], NHYDin=["A1"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.035 , 0.038 ]
                                 [ 0.072 , 0.051 ]
                                 [ 0.100 , 0.059 ]
                                 [ 0.125 , 0.070 ]
                                 [ 0.160 , 0.074 ]
                                 [ 0.185 , 0.081 ]
                                 [ -1 , -1 ] (max twenty pts)
                                 NHYDovf=["A1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-2"], DT=[1]min, AREA=[0.59](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[108.628](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST2STR"], NHYDin=["ST-2"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.0000 ]
                                 [ 0.052 , 0.0010 ]
                                 [ 0.053 , 0.0080 ]
                                 [ -1 , -1 ] (max twenty pts)
                                 NHYDovf=["ST2OVF"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*TOTAL FLOW NORTH OF STRANDHERD DR. (EAST BRANCH) CROSSING
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-8"], DT=[1]min, AREA=[60.55](ha),
                    DWF=[0](cms), CN/C=[69], IA=[4.0](mm), N=[3], TP=[1.0]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[2]rect, NHYDout=["O8PIPE"], RNUMBER=[1], PWIDTH=[1800](mm),
PHEIGHT=[1200](mm), PLNGTH=[335.1](m),
                    PROUGH=[0.013], PSLOPE=[0.001](m/m), NHYDin=["O-8"], RDT=[1](min)
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["ST2-IN"], NHYDs to
```

```
add=["DRAIN1"+"D1"+"A1-STR"+"A1-OVF"+"ST2STR"+"ST2OVF"+"O8PIPE"]
*%-----------------|------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A7"], DT=[1]min, AREA=[3.51](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[264.953](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A7-STR"], NHYDin=["A7"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.049 , 0.054 ]
                                 [ 0.102 , 0.072 ]
                                 [ 0.140 , 0.082 ]
                                 [ 0.175 , 0.099 ]
                                 [ 0.225 , 0.105 ]
                                 [ 0.260 , 0.114 ]
                                 [ -1 , -1 ] (max twenty pts)
                                 NHYDovf=["A7-OVF"]
*%-----------------|------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-3"], DT=[1]min, AREA=[0.71](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[119.164](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST3STR"], NHYDin=["ST-3"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.0000 ]
                                 [ 0.063 , 0.0010 ]
                                 [ 0.064 , 0.0094 ]
                                 [ -1 , -1 ] (max twenty pts)
                                 NHYDovf=["ST3OVF"]
*%-----------------|------------------------------------------------------------|
*ANALYSIS POINT 2 - TOTAL FLOW AT OUTLET OF STREET 2/3 INTERSECTION
*%-----------------|------------------------------------------------------------|
ADD HYD             NHYDsum=["PT2ST3"], NHYDs to
add=["ST2-IN"+"A7-STR"+"A7-OVF"+"ST3STR"+"ST3OVF"]
*%-----------------|------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 2
ROUTE CHANNEL       NHYDout=["DRAIN2"], NHYDin=["PT2ST3"], RDT=[1](min),
                    CHLGTH=[592]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                                        SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.60 -0.043,17.40 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                    (2.60, 0.95)
                    (12.60, 0.75)
                    (14.10, 0.00)
                    (15.90, 0.00)
                    (17.40, 0.75)
                    (27.40, 0.95)
```

```
                          (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD         NHYD=["D2"], DT=[1]min, AREA=[2.28](ha), DWF=[0](cms), CN/C=[84],
IA=[9.0](mm),
                          N=[3], TP=[0.99]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A17"], DT=[1]min, AREA=[12.04](ha), XIMP=[0.68],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                          LGI=[490.714](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR           NHYDout=["A17STR"], NHYDin=["A17"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.000 , 0.000 ]
                                      [ 0.169 , 0.185 ]
                                      [ 0.349 , 0.248 ]
                                      [ 0.482 , 0.283 ]
                                      [ 0.602 , 0.338 ]
                                      [ 0.771 , 0.359 ]
                                      [ 0.891 , 0.391 ]
                                      [ -1 , -1 ] (max twenty pts)
                                      NHYDovf=["A17OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-4"], DT=[1]min, AREA=[0.35](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[83.666](m),
                          MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR           NHYDout=["ST4STR"], NHYDin=["ST-4"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.000 , 0.0000 ]
                                      [ 0.031 , 0.0010 ]
                                      [ 0.032 , 0.0050 ]
                                      [ -1 , -1 ] (max twenty pts)
                                      NHYDovf=["ST4OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A18"], DT=[1]min, AREA=[5.30](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                          MNP=[0.250], SCP=[0](min),
```

```
                              Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                              LGI=[325.576](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------------
ROUTE RESERVOIR    NHYDout=["A18STR"], NHYDin=["A18"], RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [ 0.000 , 0.000 ]
                                [ 0.074 , 0.082 ]
                                [ 0.154 , 0.109 ]
                                [ 0.212 , 0.125 ]
                                [ 0.265 , 0.149 ]
                                [ 0.339 , 0.158 ]
                                [ 0.392 , 0.172 ]
                                [ -1 , -1 ] (max twenty pts)
                                NHYDovf=["A18OVF"]
*%-----------------|-------------------------------------------------------------------
*ANALYSIS POINT 3 - TOTAL FLOW AT OUTLET OF STREET 4
*%-----------------|-------------------------------------------------------------------
ADD HYD                       NHYDsum=["PT3ST4"], NHYDs to
add=["DRAIN2"+"D2"+"A17STR"+"A17OVF"+"ST4STR"+"ST4OVF"+"A18STR"+"A18OVF"]
*%-----------------|-------------------------------------------------------------------
*ROUTE FLOW through O'Keefe Drain 3
ROUTE CHANNEL                 NHYDout=["DRAIN3"], NHYDin=["PT3ST4"], RDT=[1](min),
                              CHLGTH=[525]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                              SECNUM=[1], NSEG=[3]
                              ( SEGROUGH, SEGDIST (m))=[0.07,12.50 -0.043,17.50 0.07,30.00] NSEG
                              times
                              ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                              (2.50, 1.00)
                              (12.50, 0.80)
                              (14.10, 0.00)
                              (15.90, 0.00)
                              (17.50, 0.80)
                              (27.50, 1.00)
                              (30.00, 1.70)
*%-----------------|-------------------------------------------------------------------
CONTINUOUS NASHYD             NHYD=["D3"], DT=[1]min, AREA=[2.51](ha),
                              DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.73]hrs,
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),
                              SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                              InterEventTime=[12](hrs)
                              Baseflow simulation parameters:
                              BaseFlowOption=[1] ,
                              InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                              VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------------
CONTINUOUS STANDHYD NHYD=["C1"], DT=[1]min, AREA=[3.41](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                              LGI=[261.151](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------------
ROUTE RESERVOIR    NHYDout=["C1-STR"], NHYDin=["C1"], RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [ 0.000 , 0.000 ]
```

```
                                          [  0.048 ,  0.052 ]
                                          [  0.099 ,  0.070 ]
                                          [  0.136 ,  0.080 ]
                                          [  0.170 ,  0.096 ]
                                          [  0.218 ,  0.102 ]
                                          [  0.252 ,  0.111 ]
                                          [  -1 ,  -1 ] (max twenty pts)
                                          NHYDovf=["C1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-5"], DT=[1]min, AREA=[0.45](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[94.868](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST5STR"], NHYDin=["ST-5"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                          [  0.000 ,  0.0000 ]
                                          [  0.040 ,  0.0010 ]
                                          [  0.041 ,  0.0062 ]
                                          [  -1 ,  -1 ] (max twenty pts)
                                          NHYDovf=["ST5OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["ST5-E"], NHYDs to
add=["DRAIN3"+"D3"+"C1-STR"+"C1-OVF"+"ST5STR"+"ST5OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["STRAND"], DT=[1](min), AREA=[7.59](ha),
                    XIMP=[0.64], TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[1230](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-POND"], NHYDin=["STRAND"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                          [  0.000 ,  0.000 ]
                                          [  0.033 ,  0.188 ]
                                          [  0.057 ,  0.253 ]
                                          [  0.104 ,  0.287 ]
                                          [  0.160 ,  0.336 ]
                                          [  0.340 ,  0.346 ]
                                          [  0.471 ,  0.360 ]
                                          [  0.824 ,  0.390 ]
                                          [  -1 ,  -1 ] (max twenty pts)
                                          NHYDovf=["S-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SSAOUT"], NHYDs to add=["ST5-E"+"S-POND"+"S-OVF"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SSAOUT"], # OF PCYCLES=[5], ICASEsh=[1]
                    HYD_COMMENT=["SSAOUT"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-A"], DT=[1]min, AREA=[66.75](ha), XIMP=[0.64],
TIMP=[0.80], DWF=[0](cms), LOSS=[1]:
```

```
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[1155.422](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|--------------------------------------------------------------|
SAVE HYD                    NHYD=["Area-A"], # OF PCYCLES=[1], ICASEsh=[1]
                            HYD_COMMENT=["SMWF-A Inflow"]
*%-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR             NHYDout=["SWMF-A"], NHYDin=["Area-A"], RDT=[1](min),
                                 TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                         [ 0.000 , 0.000 ]
                                         [ 0.103 , 1.077 ]
                                         [ 0.128 , 1.749 ]
                                         [ 0.382 , 2.282 ]
                                         [ 0.703 , 2.582 ]
                                         [ 1.256 , 2.978 ]
                                         [ 1.567 , 3.202 ]
                                         [ 1.955 , 3.493 ]
                                         [ 2.100 , 3.600 ]
                                         [ -1 , -1 ] (max twenty pts)
                                         NHYDovf=["SWMAOV"]
*%-----------------|--------------------------------------------------------------|
SAVE HYD                    NHYD=["SWMF-A"], # OF PCYCLES=[1], ICASEsh=[1]
                            HYD_COMMENT=["SMWF-A Outflow"]
*%-----------------|--------------------------------------------------------------|
*ANALYSIS POINT 4 - TOTAL FLOW AT OUTLET OF STREET 5
*%-----------------|--------------------------------------------------------------|
ADD HYD                     NHYDsum=["PT4ST5"], NHYDs to add=["SSAOUT"+"SWMF-A"+"SWMAOV"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C6"], DT=[1]min, AREA=[1.87](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[193.391](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR             NHYDout=["C6-STR"], NHYDin=["C6"], RDT=[1](min),
                                 TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                         [ 0.000 , 0.000 ]
                                         [ 0.026 , 0.029 ]
                                         [ 0.054 , 0.038 ]
                                         [ 0.075 , 0.044 ]
                                         [ 0.093 , 0.052 ]
                                         [ 0.120 , 0.056 ]
                                         [ 0.138 , 0.061 ]
                                         [ -1 , -1 ] (max twenty pts)
                                         NHYDovf=["C6-OVF"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C7"], DT=[1]min, AREA=[1.62](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                            MNP=[0.250], SCP=[0](min),
```

```
                         Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                         LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR          NHYDout=["C7-STR"], NHYDin=["C7"], RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.000 , 0.000 ]
                                      [ 0.023 , 0.025 ]
                                      [ 0.047 , 0.033 ]
                                      [ 0.065 , 0.038 ]
                                      [ 0.081 , 0.045 ]
                                      [ 0.104 , 0.048 ]
                                      [ 0.120 , 0.053 ]
                                      [ -1 , -1 ] (max twenty pts)
                                      NHYDovf=["C7-OVF"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-6"], DT=[1]min, AREA=[0.41](ha),XIMP=[0.46], TIMP=[0.57],
DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[90.554](m),
                         MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR          NHYDout=["ST6STR"], NHYDin=["ST-6"], RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.000 , 0.0000 ]
                                      [ 0.036 , 0.0010 ]
                                      [ 0.037 , 0.0058 ]
                                      [ -1 , -1 ] (max twenty pts)
                                      NHYDovf=["ST6OVF"]
*%-----------------|-----------------------------------------------------------|
*ANALYSIS POINT 5 - TOTAL FLOW AT OUTLET OF STREET 6
*%-----------------|-----------------------------------------------------------|
ADD HYD                  NHYDsum=["PT5ST6"], NHYDs to
add=["PT4ST5"+"C6-STR"+"C6-OVF"+"C7-STR"+"C7-OVF"+"ST6STR"+"ST6OVF"]
*%-----------------|-----------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 4
ROUTE CHANNEL            NHYDout=["DRAIN4"], NHYDin=["PT5ST6"], RDT=[1](min),
                         CHLGTH=[324]{m), CHSLOPE=[.10](%), FPSLOPE=[.10](%),
                         SECNUM=[1], NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=[0.07,12.00 -0.043,18.00 0.07,30.00] NSEG
                         times
                         ( DISTANCE (m), ELEVATION (m))=[0.00, 2.00]
                         (2.00, 1.20)
                         (12.00, 1.00)
                         (14.00, 0.00)
                         (16.00, 0.00)
                         (18.00, 1.00)
                         (28.00, 1.20)
                         (30.00, 2.00)
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD        NHYD=["D4"], DT=[1]min, AREA=[1.73](ha), DWF=[0](cms), CN/C=[88],
IA=[8.4](mm),
                         N=[3], TP=[0.60]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                         InterEventTime=[12](hrs)
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-B"], DT=[1]min, AREA=[24.04](ha), XIMP=[0.62],
TIMP=[0.77], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[1.4](%), LGP=[50](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[1.4](%),
                         LGI=[693.397](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR          NHYDout=["SWMF-B"], NHYDin=["Area-B"], RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.000 , 0.000 ]
                                      [ 0.025 , 0.090 ]
                                      [ 0.175 , 0.510 ]
                                      [ 0.350 , 0.710 ]
                                      [ 0.495 , 0.820 ]
                                      [ 0.648 , 0.980 ]
                                      [ 0.965 , 1.045 ]
                                      [ 1.072 , 1.140 ]
                                      [ -1 , -1 ] (max twenty pts)
                                      NHYDovf=["SWMBOVF"]
*%-----------------|-----------------------------------------------------------|
ADD HYD                  NHYDsum=["D4-EX"], NHYDs to add=["DRAIN4"+"D4"+"SWMF-B"+"SWMBOVF"]
*%-----------------|-----------------------------------------------------------|
*ROUTE FLOW THROUGH O'Keefe Drain 5
* JFSA: Nov. 2020, added en points to close X-Section
ROUTE CHANNEL            NHYDout=["DRAIN5"], NHYDin=["D4-EX"], RDT=[1](min),
                         CHLGTH=[413.0](m), CHSLOPE=[0.16](%), FPSLOPE=[0.16](%),
                         SECNUM=[1], NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=[0.043,12.29 -0.033,17.97
                         0.043,32.84] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=(-0.01, 2.50)
                         [0.00, 1.41]
                         [6.13, 0.97]
                         [12.29, 0.89]
                         [15.71, 0.00]
                         [17.97, 0.39]
                         [23.04, 0.35]
                         [32.83, 0.96]
                         (32.84, 2.50)
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD        NHYD=["D5"], DT=[1]min, AREA=[1.90](ha),
                         DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.69]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[12](hrs)
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*EXTERNAL FLOWS SOUTHEAST OF THE SITE NORTH OF McKENNA CASEY DR.
CONTINUOUS NASHYD        NHYD=["O-13SDF"], DT=[1]min, AREA=[9.74](ha),
                         DWF=[0](cms), CN/C=[81], IA=[4.0](mm), N=[3], TP=[.43]hrs,
                         Continuous simulation parameters:
```

```
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*SNOW DISPOSAL FACILITY
*PARAMETERS BASED ON ROBINSON 2006 MODEL
ROUTE RESERVOIR         NHYDout=["SDF"],  NHYDin=["O-13SDF"],  RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [0.000,0.000]
                                       [0.150,0.600]
                                       (0.200,1.500)
                                       [ -1 , -1 ] (max twenty pts)
                                       NHYDovf=["OVFSDF"]
*%-----------------|-----------------------------------------------------------|
*ANALYSIS POINT 6 - McKenna Casey Dr.
*%-----------------|-----------------------------------------------------------|
ADD HYD                 NHYDsum=["PT6MC"],  NHYDs to add=["DRAIN5"+"D5"+"SDF"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["O-15"],  DT=[1]min,  AREA=[10.67](ha),
                        DWF=[0](cms),  CN/C=[82],  IA=[7.5](mm),  N=[3],  TP=[0.30]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*TOTAL FLOW NORTH OF McKENNA CASEY DR.
ADD HYD                 NHYDsum=["M-C"],  NHYDs to add=["PT6MC"+"O-15"]
*%-----------------|-----------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-14
* JFSA: Nov. 2020, added end points to close X-section
ROUTE CHANNEL           NHYDout=["O-14Ch"],  NHYDin=["M-C"],  RDT=[1](min),
                        CHLGTH=[845.3](m),  CHSLOPE=[0.10](%),  FPSLOPE=[0.10](%),
                        SECNUM=[1],  NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=[0.06,15.00 -0.033,18.04 0.06,31.85] NSEG
                        times
                        ( DISTANCE (m), ELEVATION (m))=[-0.01, 2.5
                        (0.00, 1.53]
                        (5.56, 1.47)
                        (9.21, 1.45)
                        (12.45, 1.53)
                        (13.70, 1.50)
                        (15.00, 0.69)
                        (15.34, 0.00)
                        (16.51, 0.05)
                        (17.30, 0.17)
                        (18.04, 0.74)
                        (19.29, 1.32)
                        (22.73, 1.47)
                        (31.84, 1.41)
                        (31.85, 2.50)
*%-----------------|-----------------------------------------------------------|
*%   -Change O-14 from NASHYD to STANDHYD, name it "S-1-Okeefe" and add it to S-1
subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%   -JFSA 2021-02-16, add detailed subcatchment drainage area for each subcatchment
in Corrigan sub-catchment. After adding part of  O-14 to S_1 sub-catchment so O-14
becomes 5 ha instead of 30.02 ha and TP becomes 0.133 (5*0.8/30.02) instead of 0.8
CONTINUOUS NASHYD       NHYD=["O-14"],  DT=[1]min,  AREA=[5](ha),
```

```
                        DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.133]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 7 - JOCK RIVER
* 2020-12-01 To Foster Drain
* 2020-12-01  replace ("PT7JR") by ("OKEEFE")
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["OKEEFE"], NHYDs to add=["O-14Ch"+"O-14"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["OKEEFE"], DT=[1](min), AREA=[448](ha),
*                        XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                        SCS curve number CN=[77],
*                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                               LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                               LGI=[1728](m), MNI=[0.013], SCI=[0](min),
*                        Continuous simulation parameters:
*                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                        InterEventTime=[18](hrs),   END=-1
*#***************************************************************************
*#    Okeefe Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#***************************************************************************
*ROUTE RESERVOIR         NHYDout=["P_OKE"], NHYDin=["OKEEFE"],
*                        RDT=[1](min),
*                            TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [    0.0   ,   0.0]
*                                  [   14.13  ,  13.0]
*                                  [    -1    ,   -1  ]  (maximum one hundred pairs of points)
*                                  NHYDovf=["ok-OVF"],
*%-----------------|-----------------------------------------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are moved to drain before station 6215 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                        LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                        LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                        LGI=[352.798](m), MNI=[0.013], SCI=[0](min),

*                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                        InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
                        DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                        N=[3], TP=[1.120]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
```

```
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD        NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                       MajNHYD=["S-1-D2J"]
*                       MinNHYD=["S-1-D2N"]
*                       TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR        NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
*                       RDT=[1](min),
*                             TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [ 0.0     , 0.0 ]
*                                       [ 0.2231, 0.7445 ]
*                                       [    -1  ,   -1    ]  (max twenty pts)
*                             NHYDovf=["S-1-D2Rovf"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                       LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                       LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                       LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
*                       Continuous simulation parameters:
*                       IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                       SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                       InterEventTime=[12](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
                        DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                        N=[3], TP=[1.281]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD        NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                       MajNHYD=["S-1-D3J"]
*                       MinNHYD=["S-1-D3N"]
*                       TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR        NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                       RDT=[1](min),
*                             TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [ 0.0     , 0.0 ]
*                                       [ 0.0811, 0.2708 ]
*                                       [    -1  ,   -1    ]  (max twenty pts)
*                             NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["SN_OK"], NHYDs to add=["N_OK"+"OKEEFE"+"S-1-D2"+"S-1-D3"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                NHYD=["SN_OK"],    # OF PCYCLES=[-1],  ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Okeefe Drain"]
*%-----------------|-------------------------------------------------------------|
*#
```

```
*# Hydrograph from Node Okeefe routed to Node at Foster Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
*#
ROUTE CHANNEL          NHYDout=["N_FO"] ,NHYDin=["SN_OK"] ,
                       RDT=[1](min),
                       CHLGTH=[1183](m),   CHSLOPE=[0.0761](%),
                                             FPSLOPE=[0.0761](%),
                       SECNUM=[1.0],         NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.050,-33.89
                         -0.035,31.59
                         0.050,34.41] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                       [-794.18, 91.00]
                       [-775.41, 91.50]
                       [-702.63, 91.50]
                       [-546.19, 91.50]
                       [-529.54, 91.50]
                       [-323.44, 91.00]
                       [-320.71, 91.00]
                       [-183.59, 91.00]
                       [-182.54, 90.50]
                       [-181.36, 90.00]
                       [-177.37, 90.00]
                       [-87.70, 90.00]
                       [-33.89, 90.00]
                       [-18.52, 86.88]
                       [0.00,85.20]
                       [16.20, 86.83]
                       [31.59, 90.00]
                       [33.03, 90.50]
                       [34.41, 91.00]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************************
*#    Catchment FOSTER
*#    - To Foster ditch (north of the Jock)
*#    - Partially developed (medium density); remaining agricultural
*#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study
Report, CH2MHILL, Aug 2013.
*#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after
increasing Okeefe drainage area to (513.02 HA) so the total drainage area remains the
same
*#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
*#*************************************************************************************
CONTINUOUS STANDHYD NHYD=["FOSTER"], DT=[1]min, AREA=[325.44](ha),
                       XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                       SCS curve number CN=[74],
                       Pervious    surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                               LGP=[40](m), MNP=[0.25], SCP=[0](min),
                       Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                               LGI=[1472.956](m), MNI=[0.013], SCI=[0](min),
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                       SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[18](hrs),    END=-1
*#*************************************************************************************
*#    Foster Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*************************************************************************************
ROUTE RESERVOIR        NHYDout=["P_FOS"],   NHYDin=["FOSTER"],
                       RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [    0.0 ,   0.0 ]
```

```
                                               [    10.34 ,  10]
                                               [    -1   ,   -1  ]  (max twenty pts)
                                     NHYDovf=["FO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["FOSTER-OUT"], NHYDs to add=["P_FOS"+"FO-OVF"]
*%-----------------|-------------------------------------------------------------|
*#****************************************************************************
*    -Brazeau area from P 1800-19 =[71.751], change to 63.59 ha based on GIS measurements
*     -JFSA, 2021-01-19  update "W_CLAR_BRAZ" to 73.29 ha based on GIS measurements
*     -JFSA, 2021-01-22  Brazeau ("MS_P10"+"P10-OVF")brazeau pond discharges directly to the jock river through a road side ditch on the west side of Borrisokane road (station 6016)
CONTINUOUS STANDHYD NHYD=["W_CLAR_BRAZ"], DT=[1]min, AREA=[73.29](ha),
                         XIMP=[0.6], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[77],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                                   LGI=[699.00](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
* 2020-12-01 correct pond curve values
ROUTE RESERVOIR          NHYDout=["MS_P10"],  NHYDin=["W_CLAR_BRAZ"],
                         RDT=[1](min),
                                     TABLE of ( OUTFLOW-STORAGE ) values
                                                 (cms) - (ha-m)
                                               [    0.0 ,   0.0 ]
                                               [  0.068 ,  0.001 ]
                                               [  0.271 ,  0.022 ]
                                               [  0.379 ,  0.051 ]
                                               [  0.48 ,  0.091 ]
                                               [  0.853 ,  0.341 ]
                                               [  1.005 ,  0.61 ]
                                               [  1.128 ,  1.231 ]
                                               [  1.155 ,  1.592 ]
                                               [  1.194 ,  1.876 ]
                                               [  1.2 ,  1.921 ]
                                               [  1.259 ,  2.369 ]
                                               [  1.3 ,  2.665 ]
                                               [  1.349 ,  2.813 ]
                                               [    -1   ,   -1  ]  (max twenty pts)
                                     NHYDovf=["P10-OVF"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain before station 980 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                         XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                         SCS curve number CN=[74],
*                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                                   LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD        NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                         N=[3], TP=[1.10]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                              InterEventTime=[12](hrs)
                              Baseflow simulation parameters:
                              BaseFlowOption=[1] ,
                              InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                              VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD              NHYDin=["S-1-FO-D2"],  CINLET=[0.508](cms),  NINLET=[1],
*                             MajNHYD=["S-1-FO-D2J"]
*                             MinNHYD=["S-1-FO-D2N"]
*                             TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                      NHYDsum=["S-1-FO-D2S"],  NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR              NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                             RDT=[1](min),
*                                   TABLE of ( OUTFLOW-STORAGE ) values

*                                             [ 0.0     , 0.0 ]
*                                             [ 0.0590, 0.1970 ]
*                                             [    -1   ,   -1    ]  (max twenty pts)
*                                   NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                       NHYDsum=["980"],  NHYDs to add=["FOSTER-OUT"+"S-1-FO-D2"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                      NHYD=["980"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                              HYD_COMMENT=["Total Flows at Station 980 on Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
*#
ROUTE CHANNEL                 NHYDout=["980-out"] ,NHYDin=["980"] ,
                              RDT=[1](min),
                              CHLGTH=[460](m),   CHSLOPE=[0.04348](%),
                                                   FPSLOPE=[0.04348](%),
                              SECNUM=[1.0],        NSEG=[3]
                              ( SEGROUGH, SEGDIST (m))=
                                [0.050,45.90
                                -0.035,53.30
                                0.050,100] NSEG times
                              ( DISTANCE (m), ELEVATION (m))=
                              [0, 91.75 ]
                              [42.4, 92.18 ]
                              [43.5, 92.16 ]
                              [44.1, 92.1 ]
                              [44.6, 92 ]
                              [44.8, 91.86 ]
                              [45.9, 91.04 ]
                              [46.4, 90.65 ]
                              [46.8, 90.36 ]
                              [47.9, 90.32 ]
                              [48.7, 90.35 ]
                              [50.7, 90.33 ]
                              [52.2, 90.38 ]
                              [52.5, 90.59 ]
                              [53.3, 91.28 ]
                              [54, 91.83 ]
                              [54.3, 92 ]
                              [54.8, 92.08 ]
                              [55.4, 92.12 ]
                              [100, 91.84 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain
before station 520 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                             XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
```

```
*                             SCS curve number CN=[74],
*                             Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                                       LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                             Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                                       LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
*                             Continuous simulation parameters:
*                             IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                             SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                             InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------|
CONTINUOUS NASHYD            NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
                             DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                             N=[3], TP=[1.10]hrs,
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),
                             SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                             InterEventTime=[12](hrs)
                             Baseflow simulation parameters:
                             BaseFlowOption=[1] ,
                             InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                             VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|----------------------------------------------------------|
*COMPUTE DUALHYD              NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                             MajNHYD=["S-1-FO-D1J"]
*                             MinNHYD=["S-1-FO-D1N"]
*                             TMISTO=[9999999](cu-m)
*%-----------------|----------------------------------------------------------|
*ADD HYD                      NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|----------------------------------------------------------|
*ROUTE RESERVOIR              NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                             RDT=[1](min),
*                                   TABLE of ( OUTFLOW-STORAGE ) values
*                                               (cms) - (ha-m)
*                                             [ 0.0     , 0.0 ]
*                                             [ 0.0611, 0.2038 ]
*                                             [    -1  ,  -1    ]  (max twenty pts)
*                                   NHYDovf=["S-1FOD1ovf"]
*%-----------------|----------------------------------------------------------|
ADD HYD                      NHYDsum=["520"], NHYDs to add=["980-out"+"S-1-FO-D1"]
*%-----------------|----------------------------------------------------------|
SAVE HYD                     NHYD=["520"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                             HYD_COMMENT=["Total Flows at Sation 520 on Foster Drain"]
*%-----------------|----------------------------------------------------------|
*# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
*#
ROUTE CHANNEL                NHYDout=["520-out"] ,NHYDin=["520"] ,
                             RDT=[1](min),
                             CHLGTH=[860](m),  CHSLOPE=[0.5872](%),
                                                 FPSLOPE=[0.5872](%),
                             SECNUM=[1.0],       NSEG=[3]
                             ( SEGROUGH, SEGDIST (m))=
                               [0.050,45.90
                               -0.035,54.3
                               0.050,100.1097] NSEG times
                             ( DISTANCE (m), ELEVATION (m))=
                             [0, 91.26 ]
                             [44.9, 91.46 ]
                             [45.1, 91.37 ]
                             [45.9, 90.84 ]
                             [47, 90.32 ]
                             [47.5, 90.22 ]
                             [48, 90.17 ]
                             [50.7, 90.19 ]
                             [51.5, 90.17 ]
```

```
                           [52.2, 90.13 ]
                           [52.7, 90.12 ]
                           [53.3, 90.14 ]
                           [53.5, 90.31 ]
                           [53.9, 90.59 ]
                           [54.3, 90.87 ]
                           [54.7, 91.04 ]
                           [55.3, 91.24 ]
                           [55.5, 91.26 ]
                           [63.7, 91.37 ]
                           [100.1097, 91.43 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                     XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                     SCS curve number CN=[74],
*                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                             LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                     N=[3], TP=[1.007]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
*                     MajNHYD=["S-1FO-F-DJ"]
*                     MinNHYD=["S-1FO-F-DN"]
*                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     , 0.0 ]
*                                     [ 0.1788, 0.5966 ]
*                                     [    -1  ,   -1    ]  (max twenty pts)
*                           NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*   -JFSA 2021-03-02  "S-1-D8" is Borrisokane Rd. so it will remain STANDHYD in all scenarios
CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1](min), AREA=[5.27](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
                     LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
                     LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
                     LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
```

```
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*  This is a road so it is always STANDHYD
*CONTINUOUS NASHYD   NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                    MajNHYD=["S-1-D8J"]

*                    TMISTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-----------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                    MajNHYD=["S-1-D-MJ"]
*                    MinNHYD=["S-1-D-MN"]
*                    TMISTO=[5974](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                   (cms) - (ha-m)
*                                 [ 0.0     , 0.0 ]
*                                 [ 0.0630, 0.2102 ]
*                                 [    -1  ,   -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D8Rovf"]
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS NASHYD   NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.619]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
CONTINUOUS NASHYD   NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
```

```
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
ADD HYD                     NHYDsum=["SN_FO"], NHYDs to
add=["N_FO"+"520-out"+"MS_P10"+"P10-OVF"+"W_CLAR_UNDE"+"S-1-FO-F-D"+"S-1-D8"+"S-1-A"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                    NHYD=["SN_FO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                            HYD_COMMENT=["Total Flows at Foster Drain"]
*%-----------------|-----------------------------------------------------------|
*# Hydrograph from Node Foster routed to Node at Cedarview Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
*#
ROUTE CHANNEL               NHYDout=["N_CE"] ,NHYDin=["SN_FO"] ,
                            RDT=[1](min),
                            CHLGTH=[159](m),   CHSLOPE=[0.0818](%),
                                               FPSLOPE=[0.0818](%),
                            SECNUM=[1.0],      NSEG=[3]
                            ( SEGROUGH, SEGDIST (m))=
                              [0.050,-15.46
                              -0.035,26.55
                              0.050,116.76] NSEG times
                            ( DISTANCE (m), ELEVATION (m))=
                            [-645.23, 91.50]
                            [-391.20, 91.50]
                            [-91.00, 91.50]
                            [-85.52, 91.50]
                            [-15.46, 89.40]
                            [-9.79, 89.31]
                            [-3.22, 86.24]
                            [3.22, 85.07]
                            [10.96, 85.79]
                            [16.44, 86.49]
                            [26.55, 89.45]
                            [29.03, 90.27]
                            [35.76, 90.67]
                            [36.67, 91.00]
                            [108.08, 91.00]
                            [109.82, 90.50]
                            [112.04, 90.50]
                            [114.62, 91.00]
                            [116.76, 91.50]
*%-----------------|-----------------------------------------------------------|
*#*************************************************************************
*#     Catchment S-1
*#     - To Jock River (north and south of Jock)
*#     - Primarily agricultural fields; portion of sand quarry
*%-----------------|-----------------------------------------------------------|
*%     -2020-12-17 "S-1-Undev" and "S-1-Fost" was a part of Foster drain, they are below
the foster pond. Now they are added to S-1 subcatchment based on Project 1474-BCDC,
JFSA, Nov. 2020
*%     -2020-12-17 Change O-14 (it was part of Okeefe drain) to "S-1-Okeefe" and add it
to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%     -2020-12-17 Add "S-1-BCDC" as NASHYD
*%     -2020-12-17 all other S-1 subcatchment as STANDHYD with DUALHYD and ROUTE RESERVOIR
*%-----------------|-----------------------------------------------------------|
*#*************************************************************************
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
*CONTINUOUS NASHYD   NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[0.619]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
*                             InterEventTime=[12](hrs)
*                             Baseflow simulation parameters:
*                             BaseFlowOption=[1] ,
*                             InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                             VHydCond=[0.055](mm/hr),     END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD           NHYD=["S-1-B"], DT=[1]min, AREA=[55.36](ha),
                            DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
                            N=[3], TP=[0.451]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),     END=-1
*%-----------------|-----------------------------------------------------------|
*#     -   JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their
TP values based on the new areas compared to the old ones.
*CONTINUOUS NASHYD            NHYD=["S-1-BCDC"], DT=[1]min, AREA=[134.9](ha),
*                             DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
*                             N=[3], TP=[1.10]hrs,
*                             Continuous simulation parameters:
*                             IaRECper=[4](hrs),
*                             SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                             InterEventTime=[12](hrs)
*                             Baseflow simulation parameters:
*                             BaseFlowOption=[1] ,
*                             InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                             VHydCond=[0.055](mm/hr),     END=-1
*%-----------------|-----------------------------------------------------------|
*#     -   JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore.
"S-1-BCDC-1" is part of "S-1-FO-D2" and "S-1-BCDC-2" is part of "S-1-D2" and "S-1-D3"
*CONTINUOUS NASHYD            NHYD=["S-1-BCDC-1"], DT=[1]min, AREA=[0.3](ha),
*                             DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
*                             N=[3], TP=[1.10]hrs,
*                             Continuous simulation parameters:
*                             IaRECper=[4](hrs),
*                             SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                             InterEventTime=[12](hrs)
*                             Baseflow simulation parameters:
*                             BaseFlowOption=[1] ,
*                             InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                             VHydCond=[0.055](mm/hr),     END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD            NHYD=["S-1-BCDC-2"], DT=[1]min, AREA=[1.3](ha),
*                             DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
*                             N=[3], TP=[1.10]hrs,
*                             Continuous simulation parameters:
*                             IaRECper=[4](hrs),
*                             SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                             InterEventTime=[12](hrs)
*                             Baseflow simulation parameters:
*                             BaseFlowOption=[1] ,
*                             InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                             VHydCond=[0.055](mm/hr),     END=-1
*%-----------------|-----------------------------------------------------------|
*#     -   JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing
anymore
*CONTINUOUS NASHYD            NHYD=["S-1-BCDC-3"], DT=[1]min, AREA=[3.9](ha),
*                             DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
*                             N=[3], TP=[1.10]hrs,
*                             Continuous simulation parameters:
*                             IaRECper=[4](hrs),
*                             SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|---------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain
before station 7245 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                         LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                         LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                         LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs),    END=-1
*%-----------------|---------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                         MajNHYD=["S-1-OkMJ"]
*                         MinNHYD=["S-1-OkMN"]
*                         TMJSTO=[9999999](cu-m)
*%-----------------|---------------------------------------------------------------|
*ADD HYD                  NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|---------------------------------------------------------------|
*ROUTE RESERVOIR          NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                         RDT=[1](min),
*                                TABLE of ( OUTFLOW-STORAGE ) values
*                                          (cms) - (ha-m)
*                                        [ 0.0     ,  0.0 ]
*                                        [ 0.5370, 1.7917 ]
*                                        [    -1  ,   -1    ]  (max twenty pts)
*                                NHYDovf=["S-1-OkSovf"]
*%-----------------|---------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-Okeefe"], DT=[1]min, AREA=[44.93](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.049]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|---------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain
before station 520 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                         XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                         SCS curve number CN=[74],
*                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                                  LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                                  LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[18](hrs),    END=-1
*%-----------------|---------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                         MajNHYD=["S-1-FO-D1J"]
*                         MinNHYD=["S-1-FO-D1N"]
*                         TMJSTO=[9999999](cu-m)
```

```
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     , 0.0 ]
*                                     [ 0.0611, 0.2038 ]
*                                     [    -1  ,  -1    ]  (max twenty pts)
*                           NHYDovf=["S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain
before station 980 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                     XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                     SCS curve number CN=[74],
*                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                             LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
*                     MajNHYD=["S-1-FO-D2J"]
*                     MinNHYD=["S-1-FO-D2N"]
*                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     , 0.0 ]
*                                     [ 0.0590, 0.1970 ]
*                                     [    -1  ,  -1    ]  (max twenty pts)
*                           NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
```

```
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                          LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.007]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
*                    MajNHYD=["S-1FO-F-DJ"]
*                    MinNHYD=["S-1FO-F-DN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                      (cms) - (ha-m)
*                                    [ 0.0     , 0.0 ]
*                                    [ 0.1788, 0.5966 ]
*                                    [    -1  ,   -1    ]  (max twenty pts)
*                          NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D1"], DT=[1](min), AREA=[21.67](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[380.088](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D1"], DT=[1]min, AREA=[21.67](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.066]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
```

```
*COMPUTE DUALHYD      NHYDin=["S-1-D1"], CINLET=[2.482](cms), NINLET=[1],
*                     MajNHYD=["S-1-D1J"]
*                     MinNHYD=["S-1-D1N"]
*                     TMISTO=[9999999](cu-m)
*%-----------------|------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-D1S"], NHYDs to add=["S-1-D1J"+"S-1-D1N"]
*%-----------------|------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-D1R"] ,NHYDin=["S-1-D1S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     , 0.0 ]
*                                     [ 0.2590, 0.8642 ]
*                                     [    -1  ,   -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-D1Rovf"]
*%-----------------|------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are moved to drain before station 6215 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                     LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                     LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                     LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs),    END=-1
*%-----------------|------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.120]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                     MajNHYD=["S-1-D2J"]
*                     MinNHYD=["S-1-D2N"]
*                     TMISTO=[9999999](cu-m)
*%-----------------|------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     , 0.0 ]
*                                     [ 0.2231, 0.7445 ]
*                                     [    -1  ,   -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-D2Rovf"]
*%-----------------|------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                     LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                     LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                     LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
```

```
*                          IaRECper=[4](hrs),   IaRECimp=[4](hrs),
*                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                          InterEventTime=[12](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD         NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                          DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                          N=[3], TP=[1.281]hrs,
*                          Continuous simulation parameters:
*                          IaRECper=[4](hrs),
*                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                          InterEventTime=[12](hrs)
*                          Baseflow simulation parameters:
*                          BaseFlowOption=[1] ,
*                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD           NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                          MajNHYD=["S-1-D3J"]
*                          MinNHYD=["S-1-D3N"]
*                          TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD                   NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR           NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                          RDT=[1](min),
*                                TABLE of ( OUTFLOW-STORAGE ) values
*                                            (cms) - (ha-m)
*                                          [ 0.0     , 0.0 ]
*                                          [ 0.0811, 0.2708 ]
*                                          [    -1   ,   -1    ]  (max twenty pts)
*                                NHYDovf=["S-1-D3Rovf"]
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D4"], DT=[1](min), AREA=[3.28](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                          LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                          LGI=[147.874](m), MNI=[0.013], SCI=[0](min),
*                          Continuous simulation parameters:
*                          IaRECper=[4](hrs),   IaRECimp=[4](hrs),
*                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                          InterEventTime=[12](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD         NHYD=["S-1-D4"], DT=[1]min, AREA=[3.28](ha),
                          DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                          N=[3], TP=[1.10]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD           NHYDin=["S-1-D4"], CINLET=[0.373](cms), NINLET=[1],
*                          MajNHYD=["S-1-D4J"]
*                          MinNHYD=["S-1-D4N"]
*                          TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD                   NHYDsum=["S-1-D4S"], NHYDs to add=["S-1-D4J"+"S-1-D4N"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR           NHYDout=["S-1-D4R"] ,NHYDin=["S-1-D4S"] ,
*                          RDT=[1](min),
*                                TABLE of ( OUTFLOW-STORAGE ) values
```

```
*                                      (cms) - (ha-m)
*                                    [ 0.0     , 0.0 ]
*                                    [ 0.0392, 0.1308 ]
*                                    [    -1   ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D4Rovf"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D5"], DT=[1](min), AREA=[12.84](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),

*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[292.57](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs), IaRECimp=[4](hrs),
*                    SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs), END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D5"], DT=[1]min, AREA=[12.84](ha),
                    DWF=[0](cms), CN/C=[77], IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr), END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D5"], CINLET=[1.395](cms), NINLET=[1],
*                    MajNHYD=["S-1-D5J"]
*                    MinNHYD=["S-1-D5N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D5S"], NHYDs to add=["S-1-D5J"+"S-1-D5N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D5R"] ,NHYDin=["S-1-D5S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                      (cms) - (ha-m)
*                                    [ 0.0     , 0.0 ]

*                                    [    -1   ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D5Rovf"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D6"], DT=[1](min), AREA=[1.75](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[108.01](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs), IaRECimp=[4](hrs),
*                    SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs), END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D6"], DT=[1]min, AREA=[1.75](ha),
                    DWF=[0](cms), CN/C=[77], IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
```

```
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D6"], CINLET=[0.218](cms), NINLET=[1],
*                    MajNHYD=["S-1-D6J"]
*                    MinNHYD=["S-1-D6N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D6S"], NHYDs to add=["S-1-D6J"+"S-1-D6N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D6R"] ,NHYDin=["S-1-D6S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0209, 0.0698 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D6Rovf"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D7"], DT=[1](min), AREA=[2.03](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),


*                    LGI=[116.33](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D7"], DT=[1]min, AREA=[2.03](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D7"], CINLET=[2.279](cms), NINLET=[1],
*                    MajNHYD=["S-1-D7J"]
*                    MinNHYD=["S-1-D7N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D7S"], NHYDs to add=["S-1-D7J"+"S-1-D7N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D7R"] ,NHYDin=["S-1-D7S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0243, 0.0810 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1](min), AREA=[5.27](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
```

```
*                         LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                         LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD        NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.10]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                         MajNHYD=["S-1-D8J"]
*                         MinNHYD=["S-1-D8N"]
*                         TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD                  NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-----------------------------------------------------------|
*ADD HYD                  NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                         MajNHYD=["S-1-D-MJ"]
*                         MinNHYD=["S-1-D-MN"]
*                         TMJSTO=[5974](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD                  NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR          NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
*                                         [ 0.0     , 0.0 ]
*                                         [ 0.0630, 0.2102 ]
*                                         [    -1  ,  -1    ]  (max twenty pts)
*                               NHYDovf=["S-1-D8Rovf"]
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area (W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*#    Catchment W_CLAR
*#    - To West Clarke Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
*#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["W_CLAR_MJ"], DT=[1]min, AREA=[1.772](ha),
                        XIMP=[0.46], TIMP=[0.59], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[77],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[109](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),   END=-1
```

```
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["W_CLAR_MI"], CINLET=[0.213](cms), NINLET=[1],
*                     MajNHYD=["W_CLAR_Mj"]
*                     MinNHYD=["W_CLAR_Min"]
*                     TMISTO=[0.1](cu-m)
*%-----------------|-----------------------------------------------------------|
*# 5-Year + 12% Capture
ROUTE RESERVOIR      NHYDout=["W_CLAR_MIn"] ,NHYDin=["W_CLAR_MI"] ,
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [ 0.0      , 0.0 ]
                                     [ 0.213 , 0.0001 ]
                                     [     -1   ,   -1     ]   (max twenty pts)
                           NHYDovf=["W_CLAR_Mj"] ,
*%-----------------|-----------------------------------------------------------|
*     -Clarke_All area from  P 598(04)-11 = 120.207 ha, change to 127.298 ha based on GIS measurements,
*     -JFSA, 2021-01-19  update W_CLAR_ALL to (121.17-1.772=119.398) ha based on GIS measurements W_CLAR is 121.17 ha and W_CLAR_MI is 1.772 ha
CONTINUOUS STANDHYD NHYD=["W_CLAR_ALL"], DT=[1]min, AREA=[119.398](ha),
                     XIMP=[0.60], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[77],
                     Pervious    surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[892.18](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
ADD HYD              NHYDsum=["W_CLAR"], NHYDs to add=["W_CLAR_ALL"+"W_CLAR_Mj"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD             NHYD=["W_CLAR"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                     HYD_COMMENT=["Total Flows to West Clarke"]
*#****************************************************************************
*#    West Clarke Pond 2
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
*#****************************************************************************
ROUTE RESERVOIR      NHYDout=["MS_P2"],   NHYDin=["W_CLAR"],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [    0.0 ,   0.0 ]
                                     [ 0.128 , 0.161 ]
                                     [ 0.138 , 0.409 ]
                                     [ 0.148 , 0.68 ]
                                     [ 0.227 , 0.931 ]
                                     [ 0.354 , 1.223 ]
                                     [ 0.505 , 1.52 ]
                                     [ 0.666 , 1.821 ]
                                     [ 0.831 , 2.123 ]
                                     [ 0.995 , 2.434 ]
                                     [ 1.069 , 2.583 ]
                                     [ 1.51 , 2.647 ]
                                     [ 4.904 , 2.861 ]
                                     [ 13.048 , 3.188 ]
                                     [ 23.745 , 3.523 ]
                                     [ 36.474 , 3.871 ]
                                     [ 45.938 , 4.127 ]
                                     [ 61.652 , 4.539 ]
                                     [    -1   ,   -1   ]   (max twenty pts)
                           NHYDovf=["P2-OVF"]
*%-----------------|-----------------------------------------------------------|
```

```
*#****************************************************************************
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
*CONTINUOUS NASHYD      NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
*                       DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                       N=[3], TP=[1.10]hrs,
*                       Continuous simulation parameters:
*                       IaRECper=[4](hrs),
*                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                       InterEventTime=[12](hrs)
*                       Baseflow simulation parameters:
*                       BaseFlowOption=[1] ,
*                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                       VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD                NHYDsum=["SN_CE"], NHYDs to add=["N_CE"+
                        +"S-1-D4"+"S-1-D5"+"MS_P2"+"P2-OVF"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD               NHYD=["SN_CE"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                       HYD_COMMENT=["Total Flows before Station 5737 on Jock River"]
*%-----------------|-------------------------------------------------------------|
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
*# JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted
from the HEC-RAS model
T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\HEC-RAS\JockLidar2005
*# JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
ROUTE CHANNEL          NHYDout=["5737"] ,NHYDin=["SN_CE"] ,
                       RDT=[1](min),
                       CHLGTH=[270](m),  CHSLOPE=[0.0175](%),
                                         FPSLOPE=[0.0175](%),
                       SECNUM=[1.0],       NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.050,-24.04
                         -0.035,23.92
                         0.050,1130.8] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                       [-1060.52, 94 ]
                       [-268.6, 91.5 ]
                       [-259.43, 91.5 ]
                       [-179.48, 91.5 ]
                       [-67.9, 91.5 ]
                       [-59.21, 91.5 ]
                       [-33.19, 91 ]
                       [-26.08, 90.5 ]
                       [-24.04, 90 ]
                       [-13.14, 86.77 ]
                       [0, 85 ]
                       [14.68, 86.74 ]
                       [23.92, 90 ]
                       [25.78, 90.5 ]
                       [31.91, 91 ]
                       [91.95, 91.5 ]
                       [772.15, 92 ]
                       [961.49, 92.5 ]
                       [1044.69, 93 ]
                       [1130.8, 95 ]
*%-----------------|-------------------------------------------------------------|
ADD HYD                NHYDsum=["5002"], NHYDs to add=["5737"+
                        +"S-1-D1"+"S-1-D6"+"S-1-D7"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD               NHYD=["5002"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                       HYD_COMMENT=["Total Flows before Station 5002 on Jock River"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
```

```
*# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 %so the model will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs aren't well suited to really flat slopes.
*# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model will be more stable
*# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 between station 6016 and station 5002. Then the length from station 5737 to station 5002 is 736 m. Change the slope from 0.0255 % to 0.09511 %
*
ROUTE CHANNEL          NHYDout=["N_WCa"] ,NHYDin=["5002"] ,
                       RDT=[1](min),
                       CHLGTH=[245.33333](m),   CHSLOPE=[0.09511](%),
                                                FPSLOPE=[0.09511](%),
                       SECNUM=[1.0],            NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.050,-37.5
                         -0.035,37.50
                         0.050,157.05] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                       [-601.81, 91.5]
                       [-37.50, 90.00]
                       [-19.61, 87.04]
                       [0.00, 85.70]
                       [14.87, 86.93]
                       [37.50, 90.00]
                       [38.54, 90.50]
                       [42.23, 91]
                       [157.05,91.50]
*                       [161.44, 91.50]
*                       [236.48, 93.00]
*                       [385.47, 92.50]
*                       [390.78, 92.50]
*%-----------------|-----------------------------------------------------------|
ROUTE CHANNEL          NHYDout=["N_WCb"] ,NHYDin=["N_WCa"] ,
                       RDT=[1](min),
                       CHLGTH=[245.33333](m),   CHSLOPE=[0.09511](%),
                                                FPSLOPE=[0.09511](%),
                       SECNUM=[1.0],            NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.050,-37.5
                         -0.035,37.50
                         0.050,157.05] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                       [-601.81, 91.5]
                       [-37.50, 90.00]
                       [-19.61, 87.04]
                       [0.00, 85.70]
                       [14.87, 86.93]
                       [37.50, 90.00]
                       [38.54, 90.50]
                       [42.23, 91]
                       [157.05,91.50]
*%-----------------|-----------------------------------------------------------|
ROUTE CHANNEL          NHYDout=["N_WC"] ,NHYDin=["N_WCb"] ,
                       RDT=[1](min),
                       CHLGTH=[245.33333](m),   CHSLOPE=[0.09511](%),
                                                FPSLOPE=[0.09511](%),
                       SECNUM=[1.0],            NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.050,-37.5
                         -0.035,37.50
                         0.050,157.05] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                       [-601.81, 91.5]
                       [-37.50, 90.00]
                       [-19.61, 87.04]
```

```
                            [0.00, 85.70]
                            [14.87, 86.93]
                            [37.50, 90.00]
                            [38.54, 90.50]
                            [42.23, 91]
                            [157.05,91.50]
*#*****************************************************************************
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area
(W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*ADD HYD              NHYDsum=["SN_WC"], NHYDs to
add=["MS_P2"+"P2-OVF"+"N_WC"+"W_CLAR_UNDE"]
*%-----------------|-----------------------------------------------------------|
*SAVE HYD             NHYD=["SN_WC"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                     HYD_COMMENT=["Total Flows at West Clarke Pond Outlet"]
*%-----------------|-----------------------------------------------------------|
*# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
*#
ROUTE CHANNEL               NHYDout=["N_KB"] ,NHYDin=["N_WC"] ,
                            RDT=[1](min),
                            CHLGTH=[1020](m),  CHSLOPE=[0.0498](%),
                                               FPSLOPE=[0.0498](%),
                            SECNUM=[1.0],        NSEG=[3]
                            ( SEGROUGH, SEGDIST (m))=
                              [0.050,-23.63
                              -0.035,23.63
                              0.050,728.3] NSEG times
                            ( DISTANCE (m), ELEVATION (m))=
                            [-1082.01,94]
                            [-1028.17,92.5]
                            [-992.3,93.5]
                            [-279.34,90]
                            [-23.63,90]
                            [-13.45,87.13]
                            [-0.07,86.24]
                            [10.54,87.15]
                            [23.63,90]
                            [24.86,90.5]
                            [26.72,91]
                            [45.07,91.5]
                            [128.17,91.5]
                            [270.7,92.5]
                            [728.3,95]
*%-----------------|-----------------------------------------------------------|
*#*****************************************************************************
*#     Catchment KEN_BU
*#     - To Kennedy-Burnett SWM Facility
*#     - Outlets to Fraser-Clarke drain (north of the Jock)
*#     - Medium density residential subdivision
*      - Add Kennedy Burnett model (Convert PCSWMM from NOVATECH June, 2020 to SWMHYMO)
*#*****************************************************************************
*CONTINUOUS STANDHYD NHYD=["KEN_BU"], DT=[1]min, AREA=[281](ha),
*                     XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                     SCS curve number CN=[71],
*                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                              LGI=[1369](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
*#*****************************************************************************
*#   Existing Kennedy-Burnett SWM Facility
*#     - Rating curve obtained from URTKBP
```

```
*#    - Tributary Drainage Area to Pond = 160 ha
*#**********************************************************************
*ROUTE RESERVOIR      NHYDout=["KEN_P"],   NHYDin=["KEN_BU"],
*                     RDT=[1](min),
*                            TABLE of ( OUTFLOW-STORAGE ) values
*                                          (cms) - (ha-m)
*                                        [    0.0 ,   0.0 ]
*                                        [    0.13 ,  0.26]
*                                        [    0.43 ,  0.56]
*                                        [    0.67 ,  0.90]
*                                        [    0.86 ,  1.32]
*                                        [    1.01 ,  1.79]
*                                        [    1.15 ,  2.33]
*                                        [    -1   ,  -1  ]  (max twenty pts)
*                            NHYDovf=["KEN-OV"]
*%-----------------|-------------------------------------------------------------|
*      -JFSA, 2021-01-19  update all KEN_BU areas based on GIS measurements
CONTINUOUS STANDHYD NHYD=["KB-01A"], DT=[1]min, AREA=[40.82](ha), XIMP=[0.097],
TIMP=[0.4], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                    LGI=[521.664](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01A"], CINLET=[3.6](cms), NINLET=[1],
                    MajNHYD=["KB-01A-MJ"]
                    MinNHYD=["KB-01A-MN"]
                    TMJSTO=[4995](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01A-S"], NHYDs to add=["KB-01A-MJ"+"KB-01A-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01B"], DT=[1]min, AREA=[31.1](ha), XIMP=[0.1875],
TIMP=[0.375], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.42](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.42](%),
                    LGI=[455.339](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01B"], CINLET=[1.585](cms), NINLET=[1],
                    MajNHYD=["KB-01B-MJ"]
                    MinNHYD=["KB-01B-MN"]
                    TMJSTO=[6075](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01B-S"], NHYDs to add=["KB-01B-MJ"+"KB-01B-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01C"], DT=[1]min, AREA=[13.78](ha), XIMP=[0.2045],
TIMP=[0.409], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                    LGI=[303.095](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
```

```
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD       NHYDin=["KB-01C"], CINLET=[1.35](cms), NINLET=[1],
                      MajNHYD=["KB-01C-MJ"]
                      MinNHYD=["KB-01C-MN"]
                      TMJSTO=[1880](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD               NHYDsum=["KB-01C-S"], NHYDs to add=["KB-01C-MJ"+"KB-01C-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-03"], DT=[1]min, AREA=[84.78](ha), XIMP=[0.197],
TIMP=[0.394], DWF=[0](cms), LOSS=[1]:
                      Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                      F=[0.00](mm),
                      Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                      MNP=[0.250], SCP=[0](min),
                      Impervious areas: IAimp=[0.785](mm), SLPI=[0.63](%),
                      LGI=[751.798](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                      END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD       NHYDin=["KB-03"], CINLET=[5.27](cms), NINLET=[1],
                      MajNHYD=["KB-03-MJ"]
                      MinNHYD=["KB-03-MN"]
                      TMJSTO=[15500](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD               NHYDsum=["KB-03-S"], NHYDs to add=["KB-03-MJ"+"KB-03-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-04"], DT=[1]min, AREA=[6.95](ha), XIMP=[0.85],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                      Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                      F=[0.00](mm),
                      Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                      MNP=[0.250], SCP=[0](min),
                      Impervious areas: IAimp=[0.942](mm), SLPI=[0.5](%),
                      LGI=[215.252](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                      END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD       NHYDin=["KB-04"], CINLET=[0.503](cms), NINLET=[1],
                      MajNHYD=["KB-04-MJ"]
                      MinNHYD=["KB-04-MN"]
                      TMJSTO=[1972](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD               NHYDsum=["KB-04-S"], NHYDs to add=["KB-04-MJ"+"KB-04-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-05"], DT=[1]min, AREA=[5.19](ha), XIMP=[0.93],
TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                      Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                      F=[0.00](mm),
                      Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                      MNP=[0.250], SCP=[0](min),
                      Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                      LGI=[186.011](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                      END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-06"], DT=[1]min, AREA=[12.93](ha), XIMP=[0.873],
TIMP=[0.873], DWF=[0](cms), LOSS=[1]:
                      Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                      F=[0.00](mm),
                      Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                      MNP=[0.250], SCP=[0](min),
                      Impervious areas: IAimp=[0.942](mm), SLPI=[4.75](%),
```

```
                          LGI=[293.598](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD           NHYDin=["KB-06"], CINLET=[2.262](cms), NINLET=[1],
                          MajNHYD=["KB-06-MJ"]
                          MinNHYD=["KB-06-MN"]
                          TMJSTO=[1950](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                   NHYDsum=["KB-06-S"], NHYDs to add=["KB-06-MJ"+"KB-06-MN"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-11"], DT=[1]min, AREA=[4.03](ha), XIMP=[0.675],
TIMP=[0.675], DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                          LGI=[163.911](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD           NHYDin=["KB-11"], CINLET=[0.5773](cms), NINLET=[1],
                          MajNHYD=["KB-11-MJ"]
                          MinNHYD=["KB-11-MN"]
                          TMJSTO=[597](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                   NHYDsum=["KB-11-S"], NHYDs to add=["KB-11-MJ"+"KB-11-MN"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S1"], DT=[1]min, AREA=[4.99](ha), XIMP=[0.93], TIMP=[0.93],
DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                          LGI=[182.392](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-15"], DT=[1]min, AREA=[2.15](ha), XIMP=[0.79],
TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                          LGI=[119.722](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
ADD HYD                   NHYDsum=["KB-P1"], NHYDs to
add=["KB-01A-S"+"KB-01B-S"+"KB-01C-S"+"KB-03-S"+"KB-04-S"+"KB-05"+"KB-06-S"+"KB-11-S"+"KB
-15"+"S1"]
*%-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR           NHYDout=["KB-P1R"],  NHYDin=["KB-P1"],
                          RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                            (cms) - (ha-m)
                                          [    0.0 ,    0.0 ]
                                          [0.076,0.003]
```

```
                                             [0.088,0.006]
                                             [0.136,0.011]
                                             [0.301,0.017]
                                             [0.454,0.027]
                                             [0.631,0.041]
                                             [1.173,0.068]
                                             [1.91,0.111]
                                             [4.847,0.231]
                                             [9.813,0.436]
                                             [12.134,0.617]
                                             [12.438,0.732]
                                             [12.424,0.811]
                                             [12.425,0.894]
                                             [  -1  ,  -1  ]  (max twenty pts)
                                  NHYDovf=["KB-P1ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["KB-Pond1"], NHYDs to add=["KB-P1R"+"KB-P1ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD           NHYD=["KB-Pond1"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-07"], DT=[1]min, AREA=[10.86](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                   Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                   F=[0.00](mm),
                   Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                   MNP=[0.250], SCP=[0](min),
                   Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                   LGI=[269.072](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD    NHYDin=["KB-07"], CINLET=[2.094](cms), NINLET=[1],
                   MajNHYD=["KB-07-MJ"]
                   MinNHYD=["KB-07-MN"]
                   TMJSTO=[1378](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["KB-07-S"], NHYDs to add=["KB-07-MJ"+"KB-07-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-08"], DT=[1]min, AREA=[6.61](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                   Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                   F=[0.00](mm),
                   Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                   MNP=[0.250], SCP=[0](min),
                   Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                   LGI=[209.921](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD    NHYDin=["KB-08"], CINLET=[1.058](cms), NINLET=[1],
                   MajNHYD=["KB-08-MJ"]
                   MinNHYD=["KB-08-MN"]
                   TMJSTO=[787](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["KB-08-S"], NHYDs to add=["KB-08-MJ"+"KB-08-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-09"], DT=[1]min, AREA=[2.6](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                   Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                   F=[0.00](mm),
                   Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                   MNP=[0.250], SCP=[0](min),
                   Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
```

```
                         LGI=[131.656](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_1"], DT=[1]min, AREA=[2.37](ha),  XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                         LGI=[125.698](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_2"], DT=[1]min, AREA=[1.14](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%), LGI=[87.178](m),
                         MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-12"], DT=[1]min, AREA=[4.86](ha), XIMP=[0.79],
TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.099](mm), SLPI=[2.0](%),
                         LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["KB-12"], CINLET=[0.8665](cms), NINLET=[1],
                         MajNHYD=["KB-12-MJ"]
                         MinNHYD=["KB-12-MN"]
                         TMJSTO=[632](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                  NHYDsum=["KB-12-S"], NHYDs to add=["KB-12-MJ"+"KB-12-MN"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-13"], DT=[1]min, AREA=[10.19](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                         LGI=[260.640](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["KB-13"], CINLET=[1.722](cms), NINLET=[1],
                         MajNHYD=["KB-13-MJ"]
                         MinNHYD=["KB-13-MN"]
                         TMJSTO=[1077](cu-m)
```

```
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["KB-13-S"], NHYDs to add=["KB-13-MJ"+"KB-13-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD  NHYD=["KB-14"], DT=[1]min, AREA=[5.47](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                     Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                     F=[0.00](mm),
                     Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                     MNP=[0.250], SCP=[0](min),
                     Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                     LGI=[190.962](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                     END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["KB-14"], CINLET=[0.8734](cms), NINLET=[1],
                     MajNHYD=["KB-14-MJ"]
                     MinNHYD=["KB-14-MN"]
                     TMJSTO=[631](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["KB-14-S"], NHYDs to add=["KB-14-MJ"+"KB-14-MN"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD  NHYD=["KB-16_2"], DT=[1]min, AREA=[3.42](ha), XIMP=[0.71],
TIMP=[0.71], DWF=[0](cms), LOSS=[1]:
                     Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                     F=[0.00](mm),
                     Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                     MNP=[0.250], SCP=[0](min),
                     Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                     LGI=[150.997](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                     END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["KB-P2"], NHYDs to
add=["KB-Pond1"+"KB-07-S"+"KB-08-S"+"KB-09"+"KB-10_1"+"KB-10_2"+"KB-12-S"+"KB-13-S"+"KB-1
4-S"+"KB-16_2"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      NHYDout=["KB-P2R"],  NHYDin=["KB-P2"],
                     RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [   0.0 ,   0.0 ]
                                 [0.053,0.005]
                                 [0.132,0.009]
                                 [0.269,0.014]
                                 [0.455,0.023]
                                 [0.699,0.037]
                                 [0.947,0.056]
                                 [1.853,0.09]
                                 [2.712,0.146]
                                 [6.626,0.287]
                                 [11.228,0.515]
                                 [14.885,0.738]
                                 [16.473,0.893]
                                 [17.311,0.998]
                                 [17.633,1.063]
                                 [17.634,1.112]
                                 [   -1  ,   -1  ]  (max twenty pts)
                          NHYDovf=["KB-P2ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["KB-Pond2"], NHYDs to add=["KB-P2R"+"KB-P2ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["KB-Pond2"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at KB second pond"]
```

```
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-16_1"], DT=[1]min, AREA=[2.8](ha), XIMP=[0.75],
TIMP=[0.75], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[136.626](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-P3"], NHYDs to add=["KB-Pond2"+"KB-16_1"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
* One inflow node from pond 3 is added to the model (ROUTE RESERVOIR)
* Another inflow node from right side of pond 3 is not added to the model
ROUTE RESERVOIR     NHYDout=["KB-P3R"],  NHYDin=["KB-P3"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [    0.0 ,   0.0 ]
                                    [0.051,0.002]
                                    [0.048,0.003]
                                    [0.057,0.029]
                                    [0.089,0.045]
                                    [0.133,0.069]
                                    [0.199,0.106]
                                    [0.321,0.172]
                                    [1.029,0.306]
                                    [4.036,0.527]
                                    [8.332,0.761]
                                    [11.727,0.941]
                                    [14.125,1.067]
                                    [15.675,1.149]
                                    [16.555,1.196]
                                    [16.911,1.214]
                                    [   -1  ,   -1   ]    (max twenty pts)
                          NHYDovf=["KB-P3ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond3"], NHYDs to add=["KB-P3R"+"KB-P3ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond3"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB third pond"]
*%-----------------|-------------------------------------------------------------|
*#****************************************************************************
*#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM
Modeling Approach, NOVATECH Report June, 2020)
*#    - TO FRASER-CLARKE DRAIN
*#****************************************************************************
CONTINUOUS STANDHYD NHYD=["FC-01"], DT=[1]min, AREA=[8.03](ha), XIMP=[0.47],
TIMP=[0.47], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[231.373](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-01"], CINLET=[0.756](cms), NINLET=[1],
                    MajNHYD=["FC-01-MJ"]
                    MinNHYD=["FC-01-MN"]
```

```
                            TMJSTO=[714](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["FC-01-S"], NHYDs to add=["FC-01-MJ"+"FC-01-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-02"], DT=[1]min, AREA=[16.05](ha), XIMP=[0.93],
TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                            LGI=[327.109](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["FC-02"], CINLET=[1.159](cms), NINLET=[1],
                            MajNHYD=["FC-02-MJ"]
                            MinNHYD=["FC-02-MN"]
                            TMJSTO=[2385](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["FC-02-S"], NHYDs to add=["FC-02-MJ"+"FC-02-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-03"], DT=[1]min, AREA=[7.37](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                            LGI=[221.660](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["FC-03"], CINLET=[0.358](cms), NINLET=[1],
                            MajNHYD=["FC-03-MJ"]
                            MinNHYD=["FC-03-MN"]
                            TMJSTO=[1131](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["FC-03-S"], NHYDs to add=["FC-03-MJ"+"FC-03-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-04"], DT=[1]min, AREA=[12.87](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                            LGI=[292.916](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["FC-04"], CINLET=[0.741](cms), NINLET=[1],
                            MajNHYD=["FC-04-MJ"]
                            MinNHYD=["FC-04-MN"]
                            TMJSTO=[1794](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["FC-04-S"], NHYDs to add=["FC-04-MJ"+"FC-04-MN"]
*%-----------------|-------------------------------------------------------------|
*#****************************************************************************
*#   PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling
Approach, NOVATECH Report June, 2020)
*#   - TO JOCK RIVER
*#****************************************************************************
```

```
CONTINUOUS STANDHYD NHYD=["JR-01"], DT=[1]min, AREA=[8.24](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[234.379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["JR-01"], CINLET=[0.563](cms), NINLET=[1],
                    MajNHYD=["JR-01-MJ"]
                    MinNHYD=["JR-01-MN"]
                    TMJSTO=[1040](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["JR-01-S"], NHYDs to add=["JR-01-MJ"+"JR-01-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["JR-02"], DT=[1]min, AREA=[1.59](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[102.956](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["JR-02"], CINLET=[0.153](cms), NINLET=[1],
                    MajNHYD=["JR-02-MJ"]
                    MinNHYD=["JR-02-MN"]
                    TMJSTO=[153](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["JR-02-S"], NHYDs to add=["JR-02-MJ"+"JR-02-MN"]
*%-----------------|-------------------------------------------------------------|
*#****************************************************************************
*#    Catchment FRASER
*#    - To Fraser-Clarke drain (north of the Jock)
*#    - Developed land with assumed 43% imp.
*#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
*#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
*#****************************************************************************
CONTINUOUS NASHYD   NHYD=["FRASER-DRN"], DT=[1]min, AREA=[13.65](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.4258]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["FRASER-D"], DT=[1]min, AREA=[21.61](ha),
*                    XIMP=[0.585], TIMP=[0.585], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[80],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                            LGI=[379.561](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
```

```
*                          SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
*                          InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD         NHYD=["FRASER-D"], DT=[1]min,  AREA=[21.61](ha),
                          DWF=[0](cms),  CN/C=[77],   IA=[4.67](mm),
                          N=[3],  TP=[0.674]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1]  ,
                          InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD           NHYDin=["FRASER-D"],  CINLET=[3.545](cms),  NINLET=[1],
*                          MajNHYD=["FRASER-J"]
*                          MinNHYD=["FRASER-N"]
*                          TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                   NHYDsum=["FRASER-S"],  NHYDs to add=["FRASER-J"+"FRASER-N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR           NHYDout=["MS_P20"],   NHYDin=["FRASER"],
*                          RDT=[1](min),
*                                TABLE of ( OUTFLOW-STORAGE ) values
*                                            (cms) - (ha-m)
*                                          [    0.0 ,   0.0 ]
*                                          [    0.04 ,  0.36]
*                                          [    -1   ,   -1   ]  (max twenty pts)
*                                NHYDovf=["P20-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                   NHYDsum=["4241"],  NHYDs to
add=["KB-Pond3"+"S-1-B"+"FRASER-DRN"+"FRASER-D"+"N_KB"+"FC-01-S"+"FC-02-S"+"FC-03-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                  NHYD=["4241"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at Ken-Burnett Outlet"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Ken-Burnett to station 3633
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
*#
ROUTE CHANNEL             NHYDout=["4241-out"], NHYDin=["4241"],   RDT=[1](min),
                          CHLGTH=[294](m),   CHSLOPE=[0.1088](%),  FPSLOPE=[0.1088](%),
                          SECNUM=[1.0],          NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=[0.05, -20.12
                                                   -0.035, 45.26
                                                    0.05, 403.84] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=[]
                          [-909.72, 95 ]
                          [-907.09, 94.5 ]
                          [-904.65, 94 ]
                          [-902.26, 93.5 ]
                          [-44.51, 91.5 ]
                          [-25.1, 91.5 ]
                          [-20.98, 91 ]
                          [-20.61, 90.5 ]
                          [-20.12, 90 ]
                          [-6.13, 87.26 ]
                          [17.51, 86.56 ]
                          [31.37, 87.2 ]
                          [45.26, 90 ]
                          [50.41, 90.5 ]
                          [63.06, 91 ]
                          [134.5, 91.5 ]
                          [190.63, 92 ]
                          [251.98, 92.5 ]
                          [321.32, 93.5 ]
```

```
                            [403.84, 95 ]
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["SN_KB"], NHYDs to add=["4241-out"+"FC-04-S"+"JR-01-S"+"JR-02-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                    NHYD=["SN_KB"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                            HYD_COMMENT=["Total Flows before Station 3633]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Station 3633 to Node Todd
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
*# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.24671%. That is because of adding station 4241 between station 4534 and  station 3633
*#
ROUTE CHANNEL               NHYDout=["N_TO"], NHYDin=["SN_KB"],   RDT=[1](min),
                            CHLGTH=[608](m),   CHSLOPE=[0.24671](%), FPSLOPE=[0.24671](%),
                            SECNUM=[1.0],        NSEG=[3]
                            ( SEGROUGH, SEGDIST (m))=[0.05, -23.74
                                                    -0.035, 23.74
                                                     0.05, 26.50] NSEG times
                            ( DISTANCE (m), ELEVATION (m))=[]
                            -29.24, 91.0
                            -27.41, 90.5
                            -25.64, 90
                            -23.74, 89.5
                            -22, 89.26
                            -20, 88.51
                            -19, 88.32
                            -15, 88.1
                            -10, 88.11
                            -5, 88.17
                            0, 88.27
                            5, 88.19
                            10, 88.06
                            15, 88.48
                            16, 88.7
                            23.74, 89.5
                            24.68, 90
                            25.57, 90.5
                            26.50, 91.0
*                                                   [-29.24, 91]
*                                                   [-27.41, 90.5]
*                                                   [-25.64, 90]
*                                                   [-23.74, 89.5]
*                                                   [-22, 89. 26]
*                                                   [-20, 88.51]
*                                                   [-19, 88.32]
*                                                   [-15, 88.1]
*                                                   [-10, 88.11]
*                                                   [-5, 88.17]
*                                                   [0, 88.27]
*                                                   [5, 88.19]
*                                                   [10, 88.06]
*                                                   [15, 88.48]
*                                                   [16, 88.7]
*                                                   [23.74, 89.5]
*                                                   [24.68, 90]
*                                                   [25.57, 90.5]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment Greenbank
*#     - To Greenbank Drain (south of the Jock)
*#     - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
*#     - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["Greenbank"], DT=[1]min, AREA=[36.6](ha),
```

```
                        XIMP=[0.639], TIMP=[0.682], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[77],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[493.96](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),   END=-1
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR         NHYDout=["GreenB_MN"] ,NHYDin=["Greenbank"] ,
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [     0.0 , 0.0     ]
                                        [ 0.033 , 0.084 ]
                                        [ 0.039 , 0.201 ]
                                        [ 0.113 , 0.292 ]
                                        [ 0.237 , 0.386 ]
                                        [ 0.382 , 0.484 ]
                                        [ 0.539 , 0.585 ]
                                        [ 0.7 , 0.692 ]
                                        [ 0.86 , 0.804 ]
                                        [ 4.684 , 0.922 ]
                                        [ 11.539 , 1.052 ]
                                        [ 20.867 , 1.168 ]
                                        [ 103.616 , 1.974 ]
                                        [     -1   ,   -1     ]  (max twenty pts)
                              NHYDovf=["GreenB_MJ"] ,
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
ADD HYD                 NHYDsum=["GreenB"], NHYDs to add=["N_TO"+"GreenB_MJ"+"GreenB_MN"]
*%-----------------|------------------------------------------------------------|
SAVE HYD                NHYD=["GreenB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Greenbank Drain"]
*%-----------------|------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment TODD
*#    - To Todd Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 increase imp. based on P598(04)-11
*#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
*#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
*#*****************************************************************************
*#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
*CONTINUOUS STANDHYD NHYD=["TODD_MN1"], DT=[1]min, AREA=[1.772](ha),
*                        XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
*                        SCS curve number CN=[77],
*                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                                LGI=[108.689](m), MNI=[0.013], SCI=[0](min),
*                        Continuous simulation parameters:
*                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                        InterEventTime=[18](hrs),   END=-1
*%-----------------|------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN2"], DT=[1]min, AREA=[2.1](ha),
                        XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[77],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
```

```
                                LGI=[118.322](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN3"], DT=[1]min, AREA=[0.117](ha),
                         XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[77],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[27.928](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MI"], DT=[1]min, AREA=[30.230](ha),
                         XIMP=[0.52], TIMP=[0.64], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[77],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[448.925](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------------|
*     -JFSA, 2021-01-19  update "TODD_ALL" area from 108.741 ha to 112.908 ha based on GIS measurements (148.41-30.23-0.117-2.1-3.055=112.908 ha)
CONTINUOUS STANDHYD NHYD=["TODD_ALL"], DT=[1]min, AREA=[112.908](ha),
                         XIMP=[0.52], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[77],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[867.594](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_P"], DT=[1]min, AREA=[3.055](ha),
                         XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[77],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[142.712](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------------|
*%-----------------|----------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1" and its parameters remain the same.
*CONTINUOUS STANDHYD NHYD=["TODD_DEVL"], DT=[1]min, AREA=[15.87](ha),
*                         XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
*                         SCS curve number CN=[77],
*                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
```

```
*                                   LGI=[325.27](m),  MNI=[0.013],  SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),   IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
*                         InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now is called "corr2" and its parameters remain the same.
*CONTINUOUS NASHYD    NHYD=["TODD_UnD"], DT=[1]min, AREA=[12.47](ha),
*                         DWF=[0](cms),  CN/C=[77],   IA=[4.67](mm),
*                         N=[3],  TP=[1.10]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD      NHYDin=["TODD_MI"],  CINLET=[3.314](cms),  NINLET=[1],
*                         MajNHYD=["TODD_MIj"]
*                         MinNHYD=["TODD_MIn"]
*                         TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR          NHYDout=["TODD_MIn"] ,NHYDin=["TODD_MI"] ,
                         RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                              (cms) - (ha-m)
                                           [     0.0 ,  0.0     ]
                                           [  3.314  ,  0.0001 ]
                                           [     -1   ,   -1     ]  (max twenty pts)
                                NHYDovf=["TODD_MIj"] ,
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD      NHYDin=["TODD_MN1"],  CINLET=[0.227](cms),  NINLET=[1],
*                         MajNHYD=["TODD_MN1j"]
*                         MinNHYD=["TODD_MN1n"]
*                         TMJSTO=[0.1](cu-m)
*ROUTE RESERVOIR      NHYDout=["TODD_MN1n"] ,NHYDin=["TODD_MN1"] ,
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                             (cms) - (ha-m)
*                                          [     0.0 ,  0.0     ]
*                                          [  0.227  ,  0.0001 ]
*                                          [     -1   ,   -1     ]  (max twenty pts)
*                               NHYDovf=["TODD_MN1j"] ,
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["TODD_MN2"],  CINLET=[0.268](cms),  NINLET=[1],
*                         MajNHYD=["TODD_MN2j"]
*                         MinNHYD=["TODD_MN2n"]
*                         TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR          NHYDout=["TODD_MN2n"] ,NHYDin=["TODD_MN2"] ,
                         RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                              (cms) - (ha-m)
                                           [     0.0 ,  0.0     ]
                                           [  0.268  ,  0.0001 ]
                                           [     -1   ,   -1     ]  (max twenty pts)
                                NHYDovf=["TODD_MN2j"] ,
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["TODD_MN3"],  CINLET=[0.016](cms),  NINLET=[1],
*                         MajNHYD=["TODD_MN3j"]
*                         MinNHYD=["TODD_MN3n"]
*                         TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR          NHYDout=["TODD_MN3n"] ,NHYDin=["TODD_MN3"] ,
```

```
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [    0.0 ,  0.0    ]
                                      [  0.016  ,  0.0001 ]
                                      [    -1   ,   -1    ]  (max twenty pts)
                              NHYDovf=["TODD_MN3j"] ,
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the major system from A2 can be added to Todd
CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
                        XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[75],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[566](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
                        MajNHYD=["A2-MJ"]
                        MinNHYD=["A2-MN"]
                        TMJSTO=[924](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD             NHYDsum=["TODD"], NHYDs to add=["TODD_MN2n"+"TODD_MN3n"+"TODD_MJj"+"TODD_P"+"TODD_ALL"+"W_CLAR_MJn"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD            NHYD=["TODD"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-----------------------------------------------------------|
*#*****************************************************************************
*#    Todd Pond 3
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["MS_P3"],  NHYDin=["TODD"],
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,   0.0 ]
                                      [  0.014 ,  0.155 ]
                                      [  0.048 ,  0.394 ]
                                      [  0.061 ,  0.56 ]
                                      [  0.08 ,  0.909 ]
                                      [  0.088 ,  1.089 ]
                                      [  0.109 ,  1.652 ]
                                      [  0.118 ,  1.952 ]
                                      [  0.122 ,  2.099 ]
                                      [  1.972 ,  2.269 ]
                                      [  9.135 ,  2.598 ]
                                      [  15.608 ,  2.826 ]
                                      [  19.256 ,  2.942 ]
                                      [  27.282 ,  3.181 ]
                                      [  40.957 ,  3.55 ]
                                      [  56.372 ,  3.929 ]
                                      [  73.349 ,  4.317 ]
                                      [  85.469 ,  4.579 ]
                                      [  104.771 ,  4.977 ]
                                      [   -1   ,   -1   ]  (max twenty pts)
                              NHYDovf=["P3-OVF"]
*%-----------------|-----------------------------------------------------------|
ADD HYD             NHYDsum=["SN_TO"], NHYDs to add=["GreenB"+"MS_P3"+"P3-OVF"+"TODD_MN2j"+"A2-MJ"]
```

```
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["SN_TO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Todd Drain routed to Corrigan Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 % so
the model will be more stable and give reasonable results. It is justifiable as ROUTE
CHANNELs aren't well suited to really flat slopes.
*
ROUTE CHANNEL        NHYDout=["N_TO"] ,NHYDin=["SN_TO"] ,
                     RDT=[1](min),
                     CHLGTH=[280](m),   CHSLOPE=[0.05](%),
                                        FPSLOPE=[0.05](%),
                     SECNUM=[1.0],      NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.075,-17.72
                       -0.045,17.72
                       0.075,80.62] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                     [-83.32, 90.00]
                     [-81.36, 89.50]
                     [-79.12, 89.00]
                     [-76.13, 88.50]
                     [-20.46, 88.00]
                     [-19.36, 87.50]
                     [-18.51, 87.00]
                     [-17.72, 86.50]
                     [-11.95, 85.24]
                     [-0.11, 85.12]
                     [11.49, 85.20]
                     [17.72, 86.50]
                     [19.74, 87.00]
                     [21.22, 87.50]
                     [22.68, 88.00]
                     [24.28, 88.50]
                     [26.79, 89.00]
                     [71.98, 90.00]
                     [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["N_TO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                     HYD_COMMENT=["Total inflows at Station 2462"]
*%-----------------|-------------------------------------------------------------|
*#****************************************************************************
*#    Catchment CORRIG
*#    - To Corrigan Drain (south of the Jock)
*#    - Primarily Developed (medium density)
*#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
*#****************************************************************************
*ROUTE RESERVOIR      NHYDout=["MS_P1"],  NHYDin=["CORRIG"],
*                     RDT=[1](min),
*                            TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [    0.0 ,   0.0 ]
*                                       [    0.06 ,  0.58]
*                                       [    -1  ,   -1  ]  (max twenty pts)
*                            NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD             NHYD=["SN_CO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
*                     HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it
drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1"
```

```
and its parameters remain the same.
CONTINUOUS STANDHYD NHYD=["corr1"], DT=[1]min, AREA=[15.87](ha),
                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*       -JFSA 2021-02-23 add DUALHYD for "corr1". "corr1" DUALHYD Parameters are the same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to "corr1".
*        At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for A1-Corrig
COMPUTE DUALHYD     NHYDin=["corr1"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["corr1-MJ"]
                    MinNHYD=["corr1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now is called "corr2" and its parameters remain the same.
CONTINUOUS NASHYD   NHYD=["corr2"], DT=[1]min, AREA=[12.47](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*      -JFSA 2021-01-19 change A1-Corrig to be developed as per geoottawa website and apply the parameters of A2, the nearest sub-catchment to A1-Corrig, LGI is calculated based on A1-Corrig area
*      -JFSA 2021-01-19 update all Corrigan areas based on GIS measurements, and keep LGI as it is from Corrigan Report, IBI Group, 2008 because LGI calculated is less than LGI from the Corrigan Report
CONTINUOUS STANDHYD NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[324.037](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*
*       -JFSA 2021-01-25 add DUALHYD for A1-Corrig. A1-Corrig DUALHYD Parameters are the same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to A1-Corrig.
*        At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for A1-Corrig
COMPUTE DUALHYD     NHYDin=["A1-Corrig"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["A1-MJ"]
                    MinNHYD=["A1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
*                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
*                    N=[3.0], TP=[0.36]hrs,
```

```
*                           Continuous simulation parameters:
*                           IaRECper=[4](hrs),
*                           SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                           InterEventTime=[12](hrs)
*                           Baseflow simulation parameters:
*                           BaseFlowOption=[1] ,
*                           InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                           VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD          NHYD=["B1"], DT=[1]min, AREA=[2.77](ha),
                           DWF=[0](cms),   CN/C=[56], IA=[2.5](mm),
                           N=[3.0], TP=[0.23]hrs,
                           Continuous simulation parameters:
                           IaRECper=[4](hrs),
                           SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                           InterEventTime=[12](hrs)
                           Baseflow simulation parameters:
                           BaseFlowOption=[1] ,
                           InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                           VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD        NHYD=["A4"], DT=[1]min, AREA=[1.27](ha),
                           XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                           SCS curve number CN=[75],
                           Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                      LGP=[40](m), MNP=[0.25], SCP=[0](min),
                           Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                      LGI=[253](m), MNI=[0.013], SCI=[0](min),
                           Continuous simulation parameters:
                           IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                           SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                           InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD            NHYDin=["A4"], CINLET=[0.405](cms), NINLET=[1],
                           MajNHYD=["A4-MJ"]
                           MinNHYD=["A4-MN"]
                           TMJSTO=[68](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                    NHYDsum=["MH101"], NHYDs to
add=["A1-MJ"+"A1-MN"+"corr1-MJ"+"corr1-MN"+"corr2"+"B1"+"A4-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                   NHYD=["MH101"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                           HYD_COMMENT=["Total Flows at MH101"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE                 PTYPE=[1]circ, NHYDout=["101-102"], RNUMBER=[1.0], PDIAM=[1050](mm),
                           PLNGTH=[368](m), PROUGH=[0.013], PSLOPE=[0.0054](m/m),
                           NHYDin=["MH101"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the
major system from A2 can be added to Todd
*CONTINUOUS STANDHYD        NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
*                           XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
*                           SCS curve number CN=[75],
*                           Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                                      LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                           Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                                      LGI=[566](m), MNI=[0.013], SCI=[0](min),
*                           Continuous simulation parameters:
*                           IaRECper=[4](hrs),   IaRECimp=[4](hrs),
*                           SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                           InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD            NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
*                           MajNHYD=["A2-MJ"]
*                           MinNHYD=["A2-MN"]
*                           TMJSTO=[924](cu-m)
```

```
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["MH102"], NHYDs to add=["A2-MN"+"101-102"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD           NHYD=["MH102"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at MH102"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A5"], DT=[1]min, AREA=[1.6](ha),
                   XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[75],
                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[300](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["A5T"], NHYDs to add=["A4-MJ"+"A5"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD    NHYDin=["A5T"], CINLET=[0.357](cms), NINLET=[1],
                   MajNHYD=["A5-MJ"]
                   MinNHYD=["A5-MN"]
                   TMJSTO=[60](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA Jan. 2021, A3 is a part of Todd so it is removed
*   -JFSA Jan. 2021, "A2-MJ" added to "Todd"
*CONTINUOUS STANDHYD NHYD=["A3"], DT=[1]min, AREA=[18.4](ha),
*                   XIMP=[0.58], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[75],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                             LGI=[450](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*ADD HYD            NHYDsum=["A3-A2MJ"], NHYDs to add=["A2-MJ"+"A3"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD    NHYDin=["A3-A2MJ"], CINLET=[2.208](cms), NINLET=[1],
*                   MajNHYD=["A3R-MJ"]
*                   MinNHYD=["A3R-MN"]
*                   TMJSTO=[908](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE         PTYPE=[1]circ, NHYDout=["102-103"], RNUMBER=[1.0], PDIAM=[1500](mm),
                   PLNGTH=[504](m), PROUGH=[0.013], PSLOPE=[0.0028](m/m),
                   NHYDin=["MH102"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["MH103"], NHYDs to add=["102-103"+"A5-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD           NHYD=["MH103"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at MH103"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE         PTYPE=[1]circ, NHYDout=["103-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                   PLNGTH=[438](m), PROUGH=[0.013], PSLOPE=[0.0046](m/m),
                   NHYDin=["MH103"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A6"], DT=[1]min, AREA=[1.56](ha),
                   XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[75],
                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[280](m), MNI=[0.013], SCI=[0](min),
```

```
                           Continuous simulation parameters:
                           IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                           SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                           InterEventTime=[18](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
ADD HYD                    NHYDsum=["A6T"], NHYDs to add=["A5-MJ"+"A6"]
*%-----------------|--------------------------------------------------------------|
COMPUTE DUALHYD            NHYDin=["A6T"], CINLET=[0.357](cms), NINLET=[1],
                           MajNHYD=["A6-MJ"]
                           MinNHYD=["A6-MN"]
                           TMJSTO=[60](cu-m)
*%-----------------|--------------------------------------------------------------|
*   -JFSA Jan. 2021, A7-corrig is a part of Todd so it is removed
*CONTINUOUS STANDHYD NHYD=["A7-corrig"], DT=[1]min, AREA=[11.8](ha),
*                           XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
*                           SCS curve number CN=[75],
*                           Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                           Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                                   LGI=[438](m), MNI=[0.013], SCI=[0](min),
*                           Continuous simulation parameters:
*                           IaRECper=[4](hrs),   IaRECimp=[4](hrs),
*                           SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
*                           InterEventTime=[18](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
*ADD HYD                    NHYDsum=["A7-A3RMJ"], NHYDs to add=["A3R-MJ"+"A7-corrig"]
*%-----------------|--------------------------------------------------------------|
*COMPUTE DUALHYD            NHYDin=["A7-A3RMJ"], CINLET=[1.003](cms), NINLET=[1],
*                           MajNHYD=["A7R-MJ"]
*                           MinNHYD=["A7R-MN"]
*                           TMJSTO=[496](cu-m)
*%-----------------|--------------------------------------------------------------|
ADD HYD                    NHYDsum=["MH104"], NHYDs to add=["A6-MN"+"103-104"+"TODD_MJn"]
*%-----------------|--------------------------------------------------------------|
SAVE HYD                   NHYD=["MH104"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                           HYD_COMMENT=["Total Flows at MH104"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B2"], DT=[1]min, AREA=[12.31](ha),
                           XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                           SCS curve number CN=[75],
                           Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                           Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[417](m), MNI=[0.013], SCI=[0](min),
                           Continuous simulation parameters:
                           IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                           SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                           InterEventTime=[18](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
COMPUTE DUALHYD            NHYDin=["B2"], CINLET=[1.029](cms), NINLET=[1],
                           MajNHYD=["B2-MJ"]
                           MinNHYD=["B2-MN"]
                           TMJSTO=[508](cu-m)
*%-----------------|--------------------------------------------------------------|
ROUTE PIPE                 PTYPE=[1]circ, NHYDout=["315-333"], RNUMBER=[1.0], PDIAM=[1200](mm),
                           PLNGTH=[254](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                           NHYDin=["B2-MN"], RDT=[1]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B3"], DT=[1]min, AREA=[5.59](ha),
                           XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                           SCS curve number CN=[75],
                           Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                           Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[345](m), MNI=[0.013], SCI=[0](min),
                           Continuous simulation parameters:
```

```
                              IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                              SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                              InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B3"], CINLET=[0.459](cms), NINLET=[1],
                              MajNHYD=["B3-MJ"]
                              MinNHYD=["B3-MN"]
                              TMJSTO=[227](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH333"], NHYDs to add=["B3-MN"+"315-333"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH333"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                              HYD_COMMENT=["Total Flows at MH333"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["333-335"], RNUMBER=[1.0], PDIAM=[1200](mm),
                              PLNGTH=[251](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                              NHYDin=["MH333"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["335-338"], RNUMBER=[1.0], PDIAM=[1200](mm),
                              PLNGTH=[185](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                              NHYDin=["333-335"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["338-340"], RNUMBER=[1.0], PDIAM=[1350](mm),
                              PLNGTH=[233](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                              NHYDin=["335-338"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B4"], DT=[1]min, AREA=[7.6](ha),
                              XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                              SCS curve number CN=[75],
                              Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                              Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                        LGI=[388](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                              SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                              InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B4"], CINLET=[0.655](cms), NINLET=[1],
                              MajNHYD=["B4-MJ"]
                              MinNHYD=["B4-MN"]
                              TMJSTO=[323](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH340"], NHYDs to add=["338-340"+"B4-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH340"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                              HYD_COMMENT=["Total Flows at MH340"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["340-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                              PLNGTH=[240](m), PROUGH=[0.013], PSLOPE=[0.0015](m/m),
                              NHYDin=["MH340"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH104T"], NHYDs to add=["340-104"+"MH104"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[2]rect, NHYDout=["104-105"], RNUMBER=[1.0],
PWIDTH=[2400](mm)  by PHEIGHT=[2100](mm),
                              PLNGTH=[380](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                              NHYDin=["MH104T"], RDT=[1]
*%-----------------|-----------------------------------------------------------------------
---------------------------------|
CONTINUOUS STANDHYD NHYD=["B5"], DT=[1]min, AREA=[2.2](ha),
                              XIMP=[0.57], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                              SCS curve number CN=[75],
                              Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                              Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
```

```
                              LGI=[187](m),  MNI=[0.013],  SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),    END=-1
*%-----------------|----------------------------------------------------------|
COMPUTE DUALHYD         NHYDin=["B5"],  CINLET=[0.260](cms),  NINLET=[1],
                        MajNHYD=["B5-MJ"]
                        MinNHYD=["B5-MN"]
                        TMJSTO=[250](cu-m)
*%-----------------|----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A8"],  DT=[1]min,  AREA=[0.96](ha),
                        XIMP=[0.71],  TIMP=[0.71],  DWF=[0](cms),  LOSS=[2],
                        SCS curve number CN=[75],
                        Pervious   surfaces: IAper=[4.67](mm),  SLPP=[1](%),
                              LGP=[40](m),  MNP=[0.25],  SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm),  SLPI=[1](%),
                              LGI=[186](m),  MNI=[0.013],  SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),    END=-1
*%-----------------|----------------------------------------------------------|
ADD HYD                 NHYDsum=["A8T"],  NHYDs to add=["A6-MJ"+"A8"]
*%-----------------|----------------------------------------------------------|
COMPUTE DUALHYD         NHYDin=["A8T"],  CINLET=[0.238](cms),  NINLET=[1],
                        MajNHYD=["A8-MJ"]
                        MinNHYD=["A8-MN"]
                        TMJSTO=[40](cu-m)
*%-----------------|----------------------------------------------------------|
ADD HYD                 NHYDsum=["MH105"],  NHYDs to
add=["104-105"+"B5-MN"+"A8-MN"+"TODD_MN3j"]
*%-----------------|----------------------------------------------------------|
SAVE HYD                NHYD=["MH105"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at MH105"]
*%-----------------|----------------------------------------------------------|
DIVERT HYD              NHYDin=["A8-MJ"] NIDout=[2]max five,
                        outflow hydrographs (NHYDs)=["A8-MJ-JR"  "A8-MJ-B6"]
                        flow distribution table: (modify as necessary)
                        Note: all flows are in (cms)
                          QIDi  +  QIDii   =  QTOTAL
                        [    0  +     0    =     0   ]                      ]
                        [   50  +    50    =    100   ] end
*%-----------------|------------------------------------------------------------------
-----------------------------|
DIVERT HYD              NHYDin=["MH105"] NIDout=[2]max five,
                        outflow hydrographs (NHYDs)=["MH105-JR"   "MH105-B6"]
                        flow distribution table: (modify as necessary)
                        Note: all flows are in (cms)
                          QIDi  +  QIDii   =  QTOTAL
                        [    0  +     0    =     0   ]
                        [    0  +    3.0   =   3.0   ]
                        [   96.9+   3.1    =   100   ] end
*%-----------------|------------------------------------------------------------------
-----------------------------|
CONTINUOUS STANDHYD NHYD=["B7"],  DT=[1]min,  AREA=[7.19](ha),
                        XIMP=[0.41],  TIMP=[0.54],  DWF=[0](cms),  LOSS=[2],
                        SCS curve number CN=[75],
                        Pervious   surfaces: IAper=[4.67](mm),  SLPP=[1](%),
                              LGP=[40](m),  MNP=[0.25],  SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm),  SLPI=[1](%),
                              LGI=[211](m),  MNI=[0.013],  SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),    END=-1
```

```
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["B7-B4MJ"], NHYDs to add=["B4-MJ"+"B7"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["B7-B4MJ"], CINLET=[0.629](cms), NINLET=[1],
                     MajNHYD=["B7R-MJ"]
                     MinNHYD=["B7R-MN"]
                     TMJSTO=[311](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE           PTYPE=[1]circ, NHYDout=["360-106A"], RNUMBER=[1.0], PDIAM=[1050](mm),
                     PLNGTH=[167](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                     NHYDin=["B7R-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-19 change B6 to be developed as per geoottawa website and apply the
parameters of A7, the nearest sub-catchment to B6, LGI is calculated based on B6 area
CONTINUOUS STANDHYD NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
                     XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[75],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[148.099](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-25  add B1 DUALHYD as per Corrigan Report, IBI Group, 2008
COMPUTE DUALHYD      NHYDin=["B6"], CINLET=[0.064](cms), NINLET=[1],
                     MajNHYD=["B6-MJ"]
                     MinNHYD=["B6-MN"]
                     TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
*                     DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
*                     N=[3.0], TP=[0.36]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*%   -EX-LAND is external land. It is a part of JOCKVA sub-catchment as per Corrigan
Report, IBI Group, 2008
CONTINUOUS STANDHYD NHYD=["EX-LAND"], DT=[1]min, AREA=[32.5](ha),
                     XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[74],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[465.475](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["EX-LAND"], CINLET=[2.275](cms), NINLET=[1],
                     MajNHYD=["EX-LAND-MJ"]
                     MinNHYD=["EX-LAND-MN"]
                     TMJSTO=[1365](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["B6-B7ExMJ"], NHYDs to
add=["B7R-MJ"+"EX-LAND-MJ"+"B5-MJ"+"B6-MJ"+"B6-MN"+"A8-MJ-B6"]
*%-----------------|-------------------------------------------------------------|
```

```
COMPUTE DUALHYD      NHYDin=["B6-B7ExMJ"], CINLET=[0.064](cms), NINLET=[1],
                     MajNHYD=["B6R-MJ"]
                     MinNHYD=["B6R-MN"]
                     TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE           PTYPE=[1]circ, NHYDout=["105-106A"], RNUMBER=[1.0], PDIAM=[1800](mm),
                     PLNGTH=[208](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                     NHYDin=["MH105-B6"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["MH106A"], NHYDs to
add=["360-106A"+"105-106A"+"B6R-MN"+"B6R-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["MH106A"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at MH106A"]
*%-----------------|-------------------------------------------------------------|
*%   -JFSA 2021-01-12 THE MANHOLE MH106 is called MH117/106 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE           PTYPE=[1]circ, NHYDout=["106A-106"], RNUMBER=[1.0], PDIAM=[1800](mm),
                     PLNGTH=[190](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                     NHYDin=["MH106A"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD  NHYD=["A9"], DT=[1]min, AREA=[2.44](ha),
                     XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[75],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[262](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["A9"], CINLET=[0.547](cms), NINLET=[1],
                     MajNHYD=["A9-MJ"]
                     MinNHYD=["A9-MN"]
                     TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["MH106"], NHYDs to add=["106A-106"+"A9-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["MH106"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at MH106"]
*%-----------------|-------------------------------------------------------------|
*%   -JFSA 2021-01-12 THE MANHOLE MH107 is called MH118/107 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE           PTYPE=[1]circ, NHYDout=["106-107"], RNUMBER=[1.0], PDIAM=[1800](mm),
                     PLNGTH=[122.5](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                     NHYDin=["MH106"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD  NHYD=["A10"], DT=[1]min, AREA=[4.14](ha),
                     XIMP=[0.35], TIMP=[0.47], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[75],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[183](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["A10"], CINLET=[0.310](cms), NINLET=[1],
                     MajNHYD=["A10-MJ"]
                     MinNHYD=["A10-MN"]
```

```
                              TMJSTO=[228](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A11"], DT=[1]min, AREA=[10.61](ha),
                    XIMP=[0.53], TIMP=[0.62], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A11"], CINLET=[0.993](cms), NINLET=[1],
                    MajNHYD=["A11-MJ"]
                    MinNHYD=["A11-MN"]
                    TMJSTO=[556](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH107"], NHYDs to add=["106-107"+"A10-MN"+"A11-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH107"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH107"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["107-119"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[114](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                    NHYDin=["MH107"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*%   -JFSA 2021-01-12 THE MANHOLE MH108 is called MH120/108 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["119-108"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[65.8](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                    NHYDin=["107-119"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A12"], DT=[1]min, AREA=[12.29](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A12"], CINLET=[1.029](cms), NINLET=[1],
                    MajNHYD=["A12-MJ"]
                    MinNHYD=["A12-MN"]
                    TMJSTO=[672](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A13"], DT=[1]min, AREA=[2.59](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A13"], CINLET=[0.571](cms), NINLET=[1],
                    MajNHYD=["A13-MJ"]
```

```
                              MinNHYD=["A13-MN"]
                              TMJSTO=[0](cu-m)
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-01-22 add the Corrigan pond area ("Pond-Block")
CONTINUOUS STANDHYD NHYD=["Pond-Block"], DT=[1]min, AREA=[2.94](ha),
                              XIMP=[0.415], TIMP=[0.415], DWF=[0](cms), LOSS=[2],
                              SCS curve number CN=[75],
                              Pervious    surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                      LGP=[40](m), MNP=[0.25], SCP=[0](min),
                              Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                      LGI=[183](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                              SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                              InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
ADD HYD                       NHYDsum=["MH108"], NHYDs to add=["119-108"+"A13-MN"+"A12-MN"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                      NHYD=["MH108"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                              HYD_COMMENT=["Total Flows at MH108"]
*%-----------------|-----------------------------------------------------------|
ROUTE PIPE                    PTYPE=[1]circ, NHYDout=["108-116"], RNUMBER=[1.0], PDIAM=[1800](mm),
                              PLNGTH=[76.6](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                              NHYDin=["MH108"], RDT=[1]
*%-----------------|-----------------------------------------------------------|
ROUTE PIPE                    PTYPE=[1]circ, NHYDout=["116-corrig"], RNUMBER=[1.0],
PDIAM=[1800](mm),
                              PLNGTH=[79.5](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                              NHYDin=["108-116"], RDT=[1]
*%-----------------|-----------------------------------------------------------|
ADD HYD                       NHYDsum=["Corrigan"], NHYDs to add=["116-corrig"+"Pond-Block"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                      NHYD=["Corrigan"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                              HYD_COMMENT=["Total Flows at Corrigan Pond]
*%-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR               NHYDout=["Co-P"],   NHYDin=["Corrigan"],
                              RDT=[1](min),
                                    TABLE of ( OUTFLOW-STORAGE ) values
                                                (cms) - (ha-m)
                                              [    0.0 ,    0.0 ]
                                              [    0.015 ,  0.04118]
                                              [    0.030 ,  0.08297]
                                              [    0.045 ,  0.12537]
                                              [    0.060 ,  0.16837]
                                              [    0.075 ,  0.21199]
                                              [    0.090 ,  0.27545]
                                              [    0.105 ,  0.34650]
                                              [    0.120 ,  0.42049]
                                              [    0.135 ,  0.50188]
                                              [    0.186 ,  0.60307]
                                              [    2.110 ,  0.79083]
                                              [    5.874 ,  1.00271]
                                              [    11.395 ,  1.29643]
                                              [    18.770 ,  1.62054]
                                              [    28.143 ,  1.97516]
                                              [    -1   ,   -1   ]   (max twenty pts)
                                    NHYDovf=["Co-P-OVF"]
*%-----------------|-----------------------------------------------------------|
ADD HYD                       NHYDsum=["corrig"], NHYDs to
add=["Co-P-OVF"+"Co-P"+"N_TO"+"MH105-JR"+"A8-MJ-JR"+"A9-MJ"+"A10-MJ"+"A11-MJ"+"A12-MJ"+"A
13-MJ"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                      NHYD=["corrig"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                              HYD_COMMENT=["Total Flows at Corrigan Pond"]
*%-----------------|-----------------------------------------------------------|
*#***************************************************************************
```

```
*#    Corrigan Pond 1
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
*#*************************************************************************
*ROUTE RESERVOIR      NHYDout=["MS_P1"],   NHYDin=["CORRIG"],
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [    0.0 ,   0.0 ]
*                                     [    0.06 ,  0.58]
*                                     [    -1  ,   -1  ]  (max twenty pts)
*                           NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["SN_CO"],  NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD             NHYD=["SN_CO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
*                     HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Corrigan Drain routed to Jockvale Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL         NHYDout=["N_MI"] ,NHYDin=["corrig"] ,
                      RDT=[1](min),
                      CHLGTH=[580](m),   CHSLOPE=[0.4448](%),
                                         FPSLOPE=[0.4448](%),
                      SECNUM=[1.0],         NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.075,-17.72
                        -0.045,17.72
                        0.075,80.62] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                      [-83.32, 90.00]
                      [-81.36, 89.50]
                      [-79.12, 89.00]
                      [-76.13, 88.50]
                      [-20.46, 88.00]
                      [-19.36, 87.50]
                      [-18.51, 87.00]
                      [-17.72, 86.50]
                      [-11.95, 85.24]
                      [-0.11, 85.12]
                      [11.49, 85.20]
                      [17.72, 86.50]
                      [19.74, 87.00]
                      [21.22, 87.50]
                      [22.68, 88.00]
                      [24.28, 88.50]
                      [26.79, 89.00]
                      [71.98, 90.00]
                      [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment MILLS
*#    - To SWM Facility north of the Jock
*#    - Primarily residental development
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["MILLS"], DT=[1]min, AREA=[175.99](ha),
                      XIMP=[0.38], TIMP=[0.38], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[74],
                      Pervious    surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[1118.123](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),   IaRECimp=[4](hrs),
```

```
                           SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                           InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Chapman Mills SWM Pond
*#    - Rating curve obtained from CCL hydraulic modeling
*#*****************************************************************************
ROUTE RESERVOIR            NHYDout=["MILL_P"],   NHYDin=["MILLS"],
                           RDT=[1](min),
                                 TABLE of ( OUTFLOW-STORAGE ) values
                                             (cms) - (ha-m)
                                           [    0.0 ,   0.0 ]
                                           [    0.01 ,  0.01]
                                           [    0.05 ,  0.06]
                                           [    0.09 ,  0.11]
                                           [    0.13 ,  0.15]
                                           [    0.18 ,  0.19]
                                           [    0.28 ,  0.28]
                                           [    0.37 ,  0.34]
                                           [    0.45 ,  0.40]
                                           [    0.51 ,  0.44]
                                           [    0.56 ,  0.47]
                                           [    0.64 ,  0.52]
                                           [    0.76 ,  0.59]
                                           [    0.86 ,  0.65]
                                           [    1.09 ,  0.78]
                                           [    1.44 ,  0.96]
                                           [    3.18 ,  1.84]
                                           [    4.05 ,  2.31]
                                           [    -1   ,  -1  ]  (max twenty pts)
                                 NHYDovf=["MIL-OV"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                    NHYDsum=["SN_MI"], NHYDs to add=["N_MI"+"MIL-OV"+"MILL_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                   NHYD=["SN_MI"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                           HYD_COMMENT=["Total Flows at Jockvale Road"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Jockvale Road routed to Heart's Desire
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
*#
ROUTE CHANNEL              NHYDout=["N_DE"] ,NHYDin=["SN_MI"] ,
                           RDT=[1](min),
                           CHLGTH=[1962](m),   CHSLOPE=[0.2227](%),
                                               FPSLOPE=[0.2227](%),
                           SECNUM=[1.0],        NSEG=[3]
                           ( SEGROUGH, SEGDIST (m))=
                             [0.075,-17.56
                             -0.045,18.27
                             0.075,32.51] NSEG times
                           ( DISTANCE (m), ELEVATION (m))=
                           [-54.07, 85.00]
                           [-39.43, 84.50]
                           [-28.30, 84.00]
                           [-24.12, 83.50]
                           [-22.30, 83.00]
                           [-20.55, 82.50]
                           [-17.56, 82.00]
                           [-12.63, 81.22]
                           [-0.11, 80.75]
                           [11.55, 81.22]
                           [18.27, 82.00]
                           [19.82, 82.50]
                           [22.48, 83.00]
                           [27.90, 83.50]
                           [29.31, 84.00]
```

```
                            [30.81, 84.50]
                            [32.51, 85.00]
*%-----------------|----------------------------------------------------------|
*#***************************************************************************
*#     Catchment DESIRE
*#     - To Jock River (north of the Jock)
*#     - Rural-estate subdivision (Heart's Desire Community)
*#***************************************************************************
CONTINUOUS STANDHYD NHYD=["DESIRE"], DT=[1]min, AREA=[23.78](ha),
                    XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[400](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------|
*#***************************************************************************
*#     Catchment JOCKVA
*#     - To Jockvale SWM Facility
*#     - Residential development & golf course
*#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
*#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as per IBI GROUP, July 2008.
*#***************************************************************************
CONTINUOUS STANDHYD NHYD=["JOCKVA"], DT=[1]min, AREA=[225.13](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[1310.55](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------|
ADD HYD             NHYDsum=["JOCKVA-TO"], NHYDs to add=["EX-LAND-MN"+"JOCKVA"+"B2-MI"+"B3-MI"]
*%-----------------|----------------------------------------------------------|
SAVE HYD            NHYD=["JOCKVA-TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|----------------------------------------------------------|
*#***************************************************************************
*#     Jockvale SWM Facility
*#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
*#***************************************************************************
ROUTE RESERVOIR     NHYDout=["JOCK_P"],  NHYDin=["JOCKVA-TO"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [    0.0 ,   0.0 ]
                                  [    0.27 ,  0.03]
                                  [    0.28 ,  0.55]
                                  [    0.29 ,  1.14]
                                  [    0.30 ,  1.80]
                                  [    0.31 ,  2.32]
                                  [    1.12 ,  2.87]
                                  [    2.92 ,  3.45]
                                  [    4.64 ,  4.07]
                                  [    6.69 ,  4.72]
                                  [    9.02 ,  5.39]
                                  [    11.62 ,  6.10]
```

```
                                      [    14.42 ,  6.85]
                                      [    17.45 ,  7.62]
                                      [    20.69 ,  8.44]
                                      [    24.08 ,  9.28]
                                      [    27.68 ,  10.17]
                                      [    -1   ,   -1   ]  (max twenty pts)
                              NHYDovf=["JO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["SN_DE"], NHYDs to add=["N_DE"+"DESIRE"+"JO-OVF"+"JOCK_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                NHYD=["SN_DE"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Heart's Desire"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Heart's Desire routed to Rideau River
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
*#
ROUTE CHANNEL           NHYDout=["N1"] ,NHYDin=["SN_DE"] ,
                        RDT=[1](min),
                        CHLGTH=[563](m),   CHSLOPE=[0.9668](%),
                                          FPSLOPE=[0.9668](%),
                        SECNUM=[1.0],        NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.075,-30.20
                          -0.045,30.20
                          0.075,48.48] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                        [-98.46, 81.50]
                        [-92.24, 81.00]
                        [-86.88, 80.50]
                        [-81.54, 80.00]
                        [-74.36, 79.50]
                        [-63.54, 79.00]
                        [-39.23, 78.50]
                        [-34.51, 78.00]
                        [-33.01, 77.50]
                        [-30.20, 77.00]
                        [-13.42, 76.18]
                        [-1.14, 76.09]
                        [17.06, 76.18]
                        [30.20, 77.00]
                        [32.95, 77.50]
                        [34.06, 78.00]
                        [35.11, 78.50]
                        [36.32, 79.00]
                        [37.74, 79.50]
                        [48.48, 81.50]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment S-2
*#    - To Jock River (north and south)
*#    - Undeveloped floodplain and river
*#*****************************************************************************
CONTINUOUS NASHYD       NHYD=["S-2"], DT=[1]min, AREA=[102.94](ha),
                        DWF=[0](cms), CN/C=[72],   IA=[4.67](mm),
                        N=[3], TP=[0.40]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["SN_N1"], NHYDs to add=["N1"+"S-2"]
```

```
*%-----------------|-------------------------------------------------------------|
SAVE HYD              NHYD=["SN_N1"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                      HYD_COMMENT=["Total Flows at Rideau River"]
*%-----------------|-------------------------------------------------------------|
*################################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[5]
*%                     ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[10]
*%                     ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[25]
*%                     ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[50]
*%                     ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[100]
*%                     ["100YC3H.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[100]
*%                     ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[100]
*%                     ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[101]
*%                     ["A24SC100.stm"] <--storm filename, one per line for NSTORM time
*START                 TZERO=[0.0],   METOUT=[2],   NSTORM=[1],   NRUN=[102]
*%                     ["A24SC100_60.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

```
===========================================================================================
SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000    11   5555   =========
S       W W W   MM MM   H   H    Y Y    MM MM   O   O           2    0   0   11   5
SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O           2    0   0   11   5      Ver 5.500
    S    W W    M   M   H   H     Y     M   M   O   O         222    0   0   11   555    FEB 2015
SSSSS    W W    M   M   H   H     Y     M   M    OOO          2      0   0   11     5    =========
                                                              2      0   0   11     5    # 2549237
      StormWater Management HYdrologic Model                  222     000    11   555    =========
*******************************************************************************************
*************************************** SWMHYMO Ver 5.500 *********************************
******************  A single event and continuous hydrologic simulation model  ************
******************      based on the principles of HYMO and its successors     ************
******************                 OTTHYMO-83 and OTTHYMO-89.                  ************
*******************************************************************************************
****************** Distributed by:  J.F. Sabourin and Associates Inc.          ************
******************                  Ottawa,  Ontario: (613) 836-3884           ************
******************                  Gatineau, Quebec: (819) 243-6858           ************
******************                  E-Mail: swmhymo@jfsa.Com                   ************
*******************************************************************************************
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++ Licensed user: JFSAinc.                                  +++++++++++++++
++++++++++++++++++                Ottawa              SERIAL#:2549237       +++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
*******************************************************************************************
******************            ++++++ PROGRAM ARRAY DIMENSIONS ++++++           ************
******************            Maximum value for ID numbers  :      11          ************
******************            Max. number of rainfall points: 105408           ************
******************            Max. number of flow points    : 105408           ************
*******************************************************************************************
********************************   S U M M A R Y   O U T P U T   *************************
*******************************************************************************************
*                  RUN DATE:  2021-03-04      TIME:  11:49:14      RUN COUNTER:  002082   *
*******************************************************************************************
* Input   file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1-Fr-Nash.dat                                                     *
* Output  file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1-Fr-Nash.out                                                     *
* Summary file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1-Fr-Nash.sum                                                     *
* User comments:                                                                          *
* 1:______________________________________________________________________________________*
* 2:______________________________________________________________________________________*
* 3:______________________________________________________________________________________*
*******************************************************************************************
#**************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [MM]
#  Company       : JFSAinc.
#  License #     :  2549237
#**************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 %(as per St
# -------------------------------------------------------------------------
  ** END OF RUN :     1
*******************************************************************************************
 RUN#:COMMAND#
R0002:C00001--------------------------------------------------------------------------------
     START
      [TZERO =     .00 hrs on         0]
      [METOUT=    2    (1=imperial, 2=metric output)]
      [NSTORM=    1 ]
      [NRUN  = 0002 ]
#**************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [MM]
#  Company       : JFSAinc.
#  License #     :  2549237
#**************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 %(as per St
# -------------------------------------------------------------------------
R0002:C00002--------------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
R0002:C00003--------------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
R0002:C00004--------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Based onvarious calibration exercises in Onta
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in     (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in     (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0002:C00005--------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
      {APImax= 80.12:  APIavg= 56.74:  APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00    6.204 No_date   37:06   11.47 .252     .000
      [CN= 64.0:  N= 3.00:  Tp= 7.13]
      [IaREC= 4.00:  SMIN= 57.05:  SMAX=380.32:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_13        971.00    2.187 No_date   32:37   10.75 .236     .000
      [CN= 61.0:  N= 3.00:  Tp= 3.76]
      [IaREC= 4.00:  SMIN= 64.50:  SMAX=430.01:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    3.218 No_date   39:59    9.43 .207     .000
      [CN= 55.0:  N= 3.00:  Tp=11.33]
      [IaREC= 4.00:  SMIN= 83.24:  SMAX=554.96:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00    5.504 No_date   32:45   13.94 .306     .000
      [CN= 72.0:  N= 3.00:  Tp= 3.91]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_11        500.00    2.720 No_date   29:22   11.98 .263     .000
      [CN= 66.0:  N= 3.00:  Tp= 1.24]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00    4.042 No_date   34:34   11.98 .263     .000
      [CN= 66.0:  N= 3.00:  Tp= 5.29]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0002:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   11.228 No_date   38:07   13.94 .306     .000
      [CN= 72.0:  N= 3.00:  Tp= 8.00]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
```

```
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   11.072 No_date   39:59   11.98 .263     .000
      [CN= 66.0:  N= 3.00:  Tp=11.66]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0002:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_9        1132.00    4.434 No_date   30:56   13.35 .293     .000
      [CN= 70.0:  N= 3.00:  Tp= 2.51]
      [IaREC= 4.00:  SMIN= 43.07:  SMAX=287.10:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00    5.504 No_date   39:59   10.98 .241     .000
      [CN= 62.0:  N= 3.00:  Tp=11.32]
      [IaREC= 4.00:  SMIN= 61.90:  SMAX=412.66:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_8         131.00     .805 No_date   28:57   11.22 .247     .000
      [CN= 63.0:  N= 3.00:  Tp=  .90]
      [IaREC= 4.00:  SMIN= 59.42:  SMAX=396.11:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0002:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00    6.242 No_date   38:46   11.98 .263     .000
      [CN= 66.0:  N= 3.00:  Tp= 8.42]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_7        3197.00    4.651 No_date   36:31    9.85 .217     .000
      [CN= 57.0:  N= 3.00:  Tp= 6.65]
      [IaREC= 4.00:  SMIN= 76.32:  SMAX=508.81:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_6         165.00     .413 No_date   33:07   12.24 .269     .000
      [CN= 67.0:  N= 3.00:  Tp= 4.18]
      [IaREC= 4.00:  SMIN= 50.55:  SMAX=336.97:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0002:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    3.148 No_date   35:23   13.94 .306     .000
      [CN= 72.0:  N= 3.00:  Tp= 5.95]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5         224.00    2.597 No_date   28:45   15.91 .350     .000
      [CN= 77.0:  N= 3.00:  Tp=  .75]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0002:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   14.839 No_date   33:25   14.57 .320     .000
      [CN= 74.0:  N= 3.00:  Tp= 4.45]
      [IaREC= 4.00:  SMIN= 36.67:  SMAX=244.49:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00     .309 No_date   28:36   17.79 .391     .000
      [CN= 81.0:  N= 3.00:  Tp=  .62]
      [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0002:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00    3.090 No_date   38:04   15.22 .334     .000
      [CN= 75.0:  N= 3.00:  Tp= 8.00]
      [IaREC= 4.00:  SMIN= 33.81:  SMAX=225.43:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_4         585.00    4.325 No_date   29:58   17.79 .391     .000
      [CN= 81.0:  N= 3.00:  Tp= 1.75]
      [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00    5.747 No_date   30:50   17.39 .382     .000
      [CN= 80.0:  N= 3.00:  Tp= 2.46]
      [IaREC= 4.00:  SMIN= 26.32:  SMAX=175.50:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_2         177.00    2.052 No_date   28:45   15.91 .350     .000
      [CN= 77.0:  N= 3.00:  Tp=  .75]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00    5.337 No_date   31:50   17.79 .391     .000
      [CN= 81.0:  N= 3.00:  Tp= 3.25]
      [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   11.528 No_date   31:35   15.56 .342     .000
      [CN= 76.0:  N= 3.00:  Tp= 3.03]
      [IaREC= 4.00:  SMIN= 32.46:  SMAX=216.39:  SK= .010]
      [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0002:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:JR_HW       3680.00    6.204 No_date   37:06   11.47  n/a     .000
                   +      1.0 02:SW_13        971.00    2.187 No_date   32:37   10.75  n/a     .000
                SUM=      1.0 01:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0002:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .429:Dmax= 2.557}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0002:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
                   +      1.0 02:JR_GWM      3074.00    3.218 No_date   39:59    9.43  n/a     .000
                SUM=      1.0 01:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0002:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
                out <=    1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
     {MxStoUsed=.3585E+02  m3}
#
R0002:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N12         7725.00    2.609 No_date   58:09   10.57  n/a     .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .501:Dmax= 1.329}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0002:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N12         7725.00    2.609 No_date   58:08   10.57  n/a     .000
                   +      1.0 02:JR_ASH      1781.00    5.504 No_date   32:45   13.94  n/a     .000
                SUM=      1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
R0002:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0002:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
     [RDT= 1.00] out<-    1.0 01:Dum11       9506.00    7.379 No_date   33:12   11.20  n/a     .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .591:Dmax= 2.108}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
```

```
#
R0002:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:Duml1        9506.00    7.379 No_date   33:12   11.20  n/a    .000
                    +       1.0 02:SW_11         500.00    2.720 No_date   29:22   11.98  n/a    .000
                    +       1.0 02:NN_CK        1917.00    4.042 No_date   34:34   11.98  n/a    .000
                 SUM=       1.0 01:S_N11       11923.00   12.077 No_date   33:14   11.36  n/a    .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0002:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N11       11923.00   12.077 No_date   33:14   11.36  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N10         11923.00    8.276 No_date   39:46   11.36  n/a    .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .462:Dmax=  .886}
#
# Addition of Subwatershed 10 to Node 10
#
R0002:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N10         11923.00    8.276 No_date   39:46   11.36  n/a    .000
                    +       1.0 02:SW_10        5666.00   11.228 No_date   38:07   13.94  n/a    .000
                 SUM=       1.0 01:S_N10       17589.00   19.451 No_date   38:31   12.19  n/a    .000
R0002:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N10       17589.00   19.451 No_date   38:31   12.19  n/a    .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0002:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S_N10       17589.00   19.451 No_date   38:31   12.19  n/a    .000
                    +       1.0 02:KG_CK        8376.00   11.072 No_date   39:59   11.98  n/a    .000
                 SUM=       1.0 01:S_N10A      25965.00   30.328 No_date   39:58   12.12  n/a    .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0002:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N10A      25965.00   30.328 No_date   39:58   12.12  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N9          25965.00   29.579 No_date   39:59   12.12  n/a    .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .595:Dmax= 1.208}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0002:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N9          25965.00   29.579 No_date   39:59   12.12  n/a    .000
                    +       1.0 02:SW_9         1132.00    4.434 No_date   30:56   13.35  n/a    .000
                    +       1.0 02:NC_CK        4464.00    5.504 No_date   39:59   10.98  n/a    .000
                 SUM=       1.0 01:S_N9        31561.00   36.313 No_date   39:59   12.00  n/a    .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0002:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N9        31561.00   36.313 No_date   39:59   12.00  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N8          31561.00   34.173 No_date   39:59   12.00  n/a    .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .418:Dmax= 1.281}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0002:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N8          31561.00   34.173 No_date   39:59   12.00  n/a    .000
                    +       1.0 02:SW_8          131.00     .805 No_date   28:57   11.22  n/a    .000
                    +       1.0 02:HB_DR        3854.00    6.242 No_date   38:46   11.98  n/a    .000
                 SUM=       1.0 01:S_N8        35546.00   40.474 No_date   39:59   12.00  n/a    .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N8        35546.00   40.474 No_date   39:59   12.00  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N7          35546.00   32.891 No_date   44:30   12.00  n/a    .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .208:Dmax= 1.651}
#
# Addition of Subwatershed 7 to Node 7
#
R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N7          35546.00   32.891 No_date   44:30   12.00  n/a    .000
                    +       1.0 02:SW_7         3197.00    4.651 No_date   36:31    9.85  n/a    .000
                 SUM=       1.0 01:S_N7        38743.00   35.071 No_date   43:33   11.82  n/a    .000
R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N7        38743.00   35.071 No_date   43:33   11.82  n/a    .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S_N7        38743.00   35.071 No_date   43:33   11.82  n/a    .000
                out <=      1.0 01:RES_RF      38743.00   23.265 No_date   55:09   11.82  n/a    .000
     {MxStoUsed=.7801E+02  m3}
R0002:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:RES_RF      38743.00   23.265 No_date   55:09   11.82  n/a    .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0002:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:RES_RF      38743.00   23.265 No_date   55:09   11.82  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N6          38743.00   23.228 No_date   56:38   11.82  n/a    .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .432:Dmax=  .808}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0002:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N6          38743.00   23.228 No_date   56:38   11.82  n/a    .000
                    +       1.0 02:SW_6          165.00     .413 No_date   33:07   12.24  n/a    .000
                    +       1.0 02:VG_DR        1332.00    3.148 No_date   35:23   13.94  n/a    .000
                 SUM=       1.0 01:S_N6        40240.01   23.318 No_date   39:59   11.89  n/a    .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0002:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N6        40240.01   23.318 No_date   39:59   11.89  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N5          40240.01   23.285 No_date   56:09   11.89  n/a    .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .378:Dmax=  .917}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0002:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N5          40240.01   23.285 No_date   56:09   11.89  n/a    .000
                    +       1.0 02:SW_5          224.00    2.597 No_date   28:45   15.91  n/a    .000
                    +       1.0 02:FL_CK        4945.00   14.839 No_date   33:25   14.57  n/a    .000
                 SUM=       1.0 01:S_N5        45409.01   33.166 No_date   37:08   12.20  n/a    .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0002:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N5        45409.01   33.166 No_date   37:08   12.20  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N5A         45409.01   33.135 No_date   37:20   12.20  n/a    .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .443:Dmax=  .937}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0002:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N5A         45409.01   33.135 No_date   37:20   12.20  n/a    .000
                    +       1.0 02:SW_5A2         20.00     .309 No_date   28:36   17.79  n/a    .000
                    +       1.0 02:SW_5A1       1412.00    3.090 No_date   38:04   15.22  n/a    .000
                 SUM=       1.0 01:S_N5A       46841.01   36.236 No_date   37:28   12.30  n/a    .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0002:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N5A       46841.01   36.236 No_date   37:28   12.30  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N4          46841.01   35.288 No_date   39:22   12.30  n/a    .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .695:Dmax= 2.844}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0002:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N4          46841.01   35.288 No_date   39:22   12.30  n/a    .000
                    +       1.0 02:SW_4          585.00    4.325 No_date   29:58   17.79  n/a    .000
                    +       1.0 02:LM_CK        1021.00    5.747 No_date   30:50   17.39  n/a    .000
                 SUM=       1.0 01:S_N4        48447.00   37.581 No_date   38:13   12.47  n/a    .000
R0002:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N4        48447.00   37.581 No_date   38:13   12.47  n/a    .000
      fname :S_N4.0002
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0002:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N4        48447.00   37.581 No_date   38:13   12.47  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N2          48447.00   37.455 No_date   38:49   12.47  n/a    .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .715:Dmax= 2.845}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0002:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N2          48447.00   37.455 No_date   38:49   12.47  n/a    .000
                    +       1.0 02:SW_2          177.00    2.052 No_date   28:45   15.91  n/a    .000
                    +       1.0 02:SM_DR        1122.00    5.337 No_date   31:50   17.79  n/a    .000
                    +       1.0 02:MO_DR        2737.00   11.528 No_date   31:35   15.56  n/a    .000
                 SUM=       1.0 01:S_N2        52483.00   46.294 No_date   33:33   12.76  n/a    .000
R0002:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N2        52483.00   46.294 No_date   33:33   12.76  n/a    .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#***************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0002:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N2        52483.00   46.294 No_date   33:33   12.76  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N_416       52483.00   45.431 No_date   35:37   12.76  n/a    .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .577:Dmax= 2.212}
#***************************************************************************
#    Catchment SW-1a
#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#     - Undeveloped agricultural land
#***************************************************************************
R0002:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:SW_1a         536.42    1.885 No_date   31:21   13.01 .286    .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0002:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:S-1-Okeefe     44.93     .373 No_date   29:09   14.83 .326    .000
      [CN= 77.0: N= 3.00: Tp= 1.05]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0002:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N_416       52483.00   45.431 No_date   35:37   12.76  n/a    .000
                    +       1.0 02:SW_1a         536.42    1.885 No_date   31:21   13.01  n/a    .000
                    +       1.0 02:S-1-Okeefe     44.93     .373 No_date   29:09   14.83  n/a    .000
                 SUM=       1.0 01:SN_416      53064.36   46.600 No_date   35:24   12.76  n/a    .000
R0002:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:SN_416      53064.36   46.600 No_date   35:24   12.76  n/a    .000
      fname :SN_416.0002
      remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0002:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:SN_416      53064.36   46.600 No_date   35:24   12.76  n/a    .000
     [RDT= 1.00] out<-      1.0 01:N_OK        53064.36   46.592 No_date   35:24   12.76  n/a    .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.190:Dmax= 1.879}
#***************************************************************************
#    Catchment OKEEFE
#     - To O'Keefe drain (north of the Jock)
#     - Developed with assumed 43% imp.
#     - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#     - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#***************************************************************************
R0002:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-1            63.72     .305 No_date   28:59    9.62 .211    .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
R0002:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:O-1            63.72     .305 No_date   28:59    9.62  n/a    .000
     [RDT= 1.00] out<-      1.0 01:O-1R           63.72     .272 No_date   29:20    9.62  n/a    .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .589:Dmax=  .212}
R0002:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-2            28.61     .110 No_date   29:14    9.11 .200    .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
R0002:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-4            46.94     .126 No_date   29:02    7.06 .155    .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime=  12.00]
R0002:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:O-1R           63.72     .272 No_date   29:20    9.62  n/a    .000
                    +       1.0 02:O-2            28.61     .110 No_date   29:14    9.11  n/a    .000
                    +       1.0 02:O-4            46.94     .126 No_date   29:02    7.06  n/a    .000
                 SUM=       1.0 01:OKF-N         139.27     .504 No_date   29:15    8.65  n/a    .000
R0002:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:OKF-N         139.27     .504 No_date   29:15    8.65  n/a    .000
     [RDT= 1.00] out<-      1.0 01:OKF-NR        139.27     .502 No_date   29:20    8.65  n/a    .000
      [L/S/n=  210./ .810/.043]
      {Vmax=  .722:Dmax=  .437}
R0002:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-6            16.46     .042 No_date   28:47    6.40 .141    .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime=  12.00]
R0002:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:O-3            39.67     .402 No_date   28:28   11.03 .242    .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0002:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:O-5            60.63     .937 No_date   28:10   12.08 .265    .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0002:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:OKF-NR        139.27     .502 No_date   29:20    8.65  n/a    .000
                    +       1.0 02:O-3            39.67     .402 No_date   28:28   11.03  n/a    .000
                    +       1.0 02:O-5            60.63     .937 No_date   28:10   12.08  n/a    .000
                    +       1.0 02:O-6            16.46     .042 No_date   28:47    6.40  n/a    .000
                 SUM=       1.0 01:PT1           256.03    1.441 No_date   28:30    9.69  n/a    .000
R0002:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-7             5.28     .024 No_date   28:38    8.02 .176    .000
      [CN= 54.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
      [InterEventTime=  12.00]
R0002:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:PT1           256.03    1.441 No_date   28:30    9.69  n/a    .000
                    +       1.0 02:O-7             5.28     .024 No_date   28:38    8.02  n/a    .000
                 SUM=       1.0 01:FF            261.31    1.465 No_date   28:30    9.65  n/a    .000
R0002:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:FF            261.31    1.465 No_date   28:30    9.65  n/a    .000
     [RDT= 1.00] out<-      1.0 01:DRAIN1        261.31    1.446 No_date   28:36    9.65  n/a    .000
      [L/S/n=  302./1.000/.043]
      {Vmax=  .953:Dmax=  .543}
R0002:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:D1              1.17     .026 No_date   28:12   15.66 .344    .000
      [CN= 84.0: N= 3.00: Tp=  .28]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0002:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:A1              2.50     .256 No_date   28:01   34.35 .755    .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:A1              2.50     .256 No_date   28:01   34.35  n/a    .000
                out <=      1.0 01:A1-STR          2.50     .048 No_date   28:35   34.35  n/a    .000
           overflow <=      1.0 03:A1-OVF           .00     .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.4261E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:ST-2             .59     .044 No_date   28:00   25.32 .556    .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:ST-2             .59     .044 No_date   28:00   25.32  n/a    .000
                out <=      1.0 01:ST2STR           .59     .041 No_date   28:02   25.32  n/a    .000
           overflow <=      1.0 03:ST2OVF           .00     .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.7924E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-8            60.55     .405 No_date   29:05   12.46 .274    .000
      [CN= 69.0: N= 3.00: Tp= 1.00]
      [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
      [InterEventTime=  12.00]
R0002:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->      1.0 02:O-8            60.55     .405 No_date   29:05   12.46  n/a    .000
     [RDT= 1.00] out<-      1.0 01:O8PIPE         60.55     .402 No_date   29:10   12.46  n/a    .000
      [L/S/n=  335./ .100/.013]
      {Vmax=  .842:Dmax=  .265}
      {HGTH= 1.20:WDTH= 1.80}
R0002:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:DRAIN1        261.31    1.446 No_date   28:36    9.65  n/a    .000
                    +       1.0 02:D1              1.17     .026 No_date   28:12   15.66  n/a    .000
                    +       1.0 02:A1-STR          2.50     .048 No_date   28:35   34.35  n/a    .000
                    +       1.0 02:A1-OVF           .00     .000 No_date    0:00     .00  n/a    .000
                    +       1.0 02:ST2STR           .59     .041 No_date   28:02   25.32  n/a    .000
                    +       1.0 02:ST2OVF           .00     .000 No_date    0:00     .00  n/a    .000
                    +       1.0 02:O8PIPE         60.55     .402 No_date   29:10   12.46  n/a    .000
                 SUM=       1.0 01:ST2-IN        326.12    1.834 No_date   28:39   10.41  n/a    .000
R0002:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:A7              3.51     .348 No_date   28:02   34.35 .755    .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
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```
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A7            3.51     .348 No_date   28:02   34.35  n/a     .000
                out  <=    1.0 01:A7-STR        3.51     .067 No_date   28:36   34.35  n/a     .000
           overflow <=     1.0 03:A7-OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.6002E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-3           .71     .053 No_date   28:00   25.32 .556     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-3           .71     .053 No_date   28:00   25.32  n/a     .000
                out  <=    1.0 01:ST3STR         .71     .050 No_date   28:02   25.32  n/a     .000
           overflow <=     1.0 03:ST3OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7947E-03  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST2-IN      326.12    1.834 No_date   28:39   10.41  n/a     .000
                     +     1.0 02:A7-STR        3.51     .067 No_date   28:36   34.35  n/a     .000
                     +     1.0 02:A7-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST3STR         .71     .050 No_date   28:02   25.32  n/a     .000
                     +     1.0 02:ST3OVF         .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT2ST3      330.34    1.912 No_date   28:38   10.70  n/a     .000
R0002:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:PT2ST3      330.34    1.912 No_date   28:38   10.70  n/a     .000
      [RDT= 1.00] out<-    1.0 01:DRAIN2      330.34    1.821 No_date   28:57   10.70  n/a     .000
       [L/S/n=  592./ .230/.043]
       {Vmax=  .681:Dmax=  .785}
R0002:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D2            2.28     .021 No_date   29:07   15.66 .344     .000
       [CN= 84.0:  N= 3.00:  Tp=  .99]
       [IaREC= 4.00:  SMIN= 21.09:  SMAX=140.62:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A17          12.04    1.030 No_date   28:04   34.35 .755     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A17          12.04    1.030 No_date   28:04   34.35  n/a     .000
                out  <=    1.0 01:A17STR       12.04     .220 No_date   28:42   34.35  n/a     .000
           overflow <=     1.0 03:A17OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2030E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-4           .35     .027 No_date   28:00   25.32 .556     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-4           .35     .027 No_date   28:00   25.32  n/a     .000
                out  <=    1.0 01:ST4STR         .35     .023 No_date   28:03   25.32  n/a     .000
           overflow <=     1.0 03:ST4OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7487E-03  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A18           5.30     .500 No_date   28:03   34.35 .755     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A18           5.30     .500 No_date   28:03   34.35  n/a     .000
                out  <=    1.0 01:A18STR        5.30     .099 No_date   28:38   34.35  n/a     .000
           overflow <=     1.0 03:A18OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.9042E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN2      330.34    1.821 No_date   28:57   10.70  n/a     .000
                     +     1.0 02:D2            2.28     .021 No_date   29:07   15.66  n/a     .000
                     +     1.0 02:A17STR       12.04     .220 No_date   28:42   34.35  n/a     .000
                     +     1.0 02:A17OVF         .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST4STR         .35     .023 No_date   28:03   25.32  n/a     .000
                     +     1.0 02:ST4OVF         .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A18STR        5.30     .099 No_date   28:38   34.35  n/a     .000
                     +     1.0 02:A18OVF         .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT3ST4      350.31    2.146 No_date   28:54   11.92  n/a     .000
R0002:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:PT3ST4      350.31    2.146 No_date   28:54   11.92  n/a     .000
      [RDT= 1.00] out<-    1.0 01:DRAIN3      350.31    2.088 No_date   29:08   11.92  n/a     .000
       [L/S/n=  525./ .230/.043]
       {Vmax=  .707:Dmax=  .833}
R0002:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D3            2.51     .033 No_date   28:46   17.40 .382     .000
       [CN= 86.0:  N= 3.00:  Tp=  .73]
       [IaREC= 4.00:  SMIN= 17.43:  SMAX=116.21:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C1            3.41     .339 No_date   28:02   34.35 .755     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C1            3.41     .339 No_date   28:02   34.35  n/a     .000
                out  <=    1.0 01:C1-STR        3.41     .065 No_date   28:36   34.35  n/a     .000
           overflow <=     1.0 03:C1-OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5806E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-5           .45     .034 No_date   28:00   25.32 .556     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-5           .45     .034 No_date   28:00   25.32  n/a     .000
                out  <=    1.0 01:ST5STR         .45     .031 No_date   28:03   25.32  n/a     .000
           overflow <=     1.0 03:ST5OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7682E-03  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN3      350.31    2.088 No_date   29:08   11.92  n/a     .000
                     +     1.0 02:D3            2.51     .033 No_date   28:46   17.40  n/a     .000
                     +     1.0 02:C1-STR        3.41     .065 No_date   28:36   34.35  n/a     .000
                     +     1.0 02:C1-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST5STR         .45     .031 No_date   28:03   25.32  n/a     .000
                     +     1.0 02:ST5OVF         .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:ST5-E       356.68    2.174 No_date   29:07   12.19  n/a     .000
R0002:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:STRAND        7.59     .471 No_date   28:13   33.47 .735     .000
       [XIMP=.64:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:STRAND        7.59     .471 No_date   28:13   33.47  n/a     .000
                out  <=    1.0 01:S-POND        7.59     .032 No_date   30:14   33.47  n/a     .000
           overflow <=     1.0 03:S-OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1805E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST5-E       356.68    2.174 No_date   29:07   12.19  n/a     .000
                     +     1.0 02:S-POND        7.59     .032 No_date   30:14   33.47  n/a     .000
                     +     1.0 02:S-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:SSAOUT      364.27    2.204 No_date   29:07   12.63  n/a     .000
R0002:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SSAOUT      364.27    2.204 No_date   29:07   12.63  n/a     .000
       fname :SSAOUT.0002
       remark:SSAOUT
R0002:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Area-A       66.75    3.902 No_date   28:13   32.66 .718     .000
       [XIMP=.64:TIMP=.80]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:Area-A       66.75    3.902 No_date   28:13   32.66  n/a     .000
       fname :Area-A.0002
       remark:SMWF-A Inflow
R0002:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Area-A       66.75    3.902 No_date   28:13   32.66  n/a     .000
                out  <=    1.0 01:SWMF-A       66.75     .126 No_date   32:26   32.66  n/a     .000
           overflow <=     1.0 03:SWMAOV         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1708E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SWMF-A       66.75     .126 No_date   32:26   32.66  n/a     .000
       fname :SWMF-A.0002
       remark:SMWF-A Outflow
R0002:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:SSAOUT      364.27    2.204 No_date   29:07   12.63  n/a     .000
                     +     1.0 02:SWMF-A       66.75     .126 No_date   32:26   32.66  n/a     .000
                     +     1.0 02:SWMAOV         .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT4ST5      431.02    2.323 No_date   29:07   15.73  n/a     .000
R0002:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C6            1.87     .196 No_date   28:01   34.35 .755     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C6            1.87     .196 No_date   28:01   34.35  n/a     .000
                out  <=    1.0 01:C6-STR        1.87     .036 No_date   28:34   34.35  n/a     .000
           overflow <=     1.0 03:C6-OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3218E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C7            1.62     .171 No_date   28:01   34.35 .755     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C7            1.62     .171 No_date   28:01   34.35  n/a     .000
                out  <=    1.0 01:C7-STR        1.62     .031 No_date   28:34   34.35  n/a     .000
           overflow <=     1.0 03:C7-OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2774E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-6           .41     .031 No_date   28:00   25.32 .556     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-6           .41     .031 No_date   28:00   25.32  n/a     .000
                out  <=    1.0 01:ST6STR         .41     .028 No_date   28:03   25.32  n/a     .000
           overflow <=     1.0 03:ST6OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7725E-03  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT4ST5      431.02    2.323 No_date   29:07   15.73  n/a     .000
                     +     1.0 02:C6-STR        1.87     .036 No_date   28:34   34.35  n/a     .000
                     +     1.0 02:C6-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:C7-STR        1.62     .031 No_date   28:34   34.35  n/a     .000
                     +     1.0 02:C7-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST6STR         .41     .028 No_date   28:03   25.32  n/a     .000
                     +     1.0 02:ST6OVF         .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT5ST6      434.92    2.379 No_date   29:06   15.89  n/a     .000
R0002:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:PT5ST6      434.92    2.379 No_date   29:06   15.89  n/a     .000
      [RDT= 1.00] out<-    1.0 01:DRAIN4      434.92    2.319 No_date   29:17   15.89  n/a     .000
       [L/S/n=  324./ .100/.043]
       {Vmax=  .532:Dmax= 1.041}
R0002:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D4            1.73     .030 No_date   28:36   18.93 .416     .000
       [CN= 88.0:  N= 3.00:  Tp=  .60]
       [IaREC= 4.00:  SMIN= 14.94:  SMAX= 99.61:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Area-B       24.04    2.028 No_date   28:04   31.71 .697     .000
       [XIMP=.62:TIMP=.77]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Area-B       24.04    2.028 No_date   28:04   31.71  n/a     .000
                out  <=    1.0 01:SWMF-B       24.04     .169 No_date   29:09   31.71  n/a     .000
           overflow <=     1.0 03:SWMBOVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.4926E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN4      434.92    2.319 No_date   29:17   15.89  n/a     .000
                     +     1.0 02:D4            1.73     .030 No_date   28:36   18.93  n/a     .000
                     +     1.0 02:SWMF-B       24.04     .169 No_date   29:09   31.71  n/a     .000
                     +     1.0 02:SWMBOVF        .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:D4-EX       460.69    2.507 No_date   29:17   16.73  n/a     .000
R0002:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:D4-EX       460.69    2.507 No_date   29:17   16.73  n/a     .000
      [RDT= 1.00] out<-    1.0 01:DRAIN5      460.69    2.448 No_date   29:30   16.73  n/a     .000
       [L/S/n=  413./ .160/.033]
       {Vmax=  .501:Dmax=  .708}
R0002:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D5            1.90     .026 No_date   28:43   17.40 .382     .000
       [CN= 86.0:  N= 3.00:  Tp=  .69]
       [IaREC= 4.00:  SMIN= 17.43:  SMAX=116.21:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-13SDF       9.74     .182 No_date   28:22   16.95 .372     .000
       [CN= 81.0:  N= 3.00:  Tp=  .43]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:O-13SDF       9.74     .182 No_date   28:22   16.95  n/a     .000
                out  <=    1.0 01:SDF           9.74     .021 No_date   32:19   16.95  n/a     .000
           overflow <=     1.0 03:OVFSDF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.8320E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN5      460.69    2.448 No_date   29:30   16.73  n/a     .000
                     +     1.0 02:D5            1.90     .026 No_date   28:43   17.40  n/a     .000
                     +     1.0 02:SDF           9.74     .021 No_date   32:19   16.95  n/a     .000
                  SUM=     1.0 01:PT6MC       472.33    2.484 No_date   29:30   16.73  n/a     .000
R0002:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-15         10.67     .230 No_date   28:14   15.77 .347     .000
       [CN= 82.0:  N= 3.00:  Tp=  .30]
       [IaREC= 4.00:  SMIN= 23.09:  SMAX=153.94:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT6MC       472.33    2.484 No_date   29:30   16.73  n/a     .000
                     +     1.0 02:O-15         10.67     .230 No_date   28:14   15.77  n/a     .000
                  SUM=     1.0 01:M-C         483.00    2.528 No_date   29:29   16.71  n/a     .000
R0002:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:M-C         483.00    2.528 No_date   29:29   16.71  n/a     .000
      [RDT= 1.00] out<-    1.0 01:O-14Ch      483.00    2.419 No_date   29:44   16.71  n/a     .000
       [L/S/n=  845./ .100/.033]
       {Vmax=  .756:Dmax= 1.160}
R0002:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-14          5.00     .181 No_date   28:04   15.77 .347     .000
       [CN= 82.0:  N= 3.00:  Tp=  .13]
       [IaREC= 4.00:  SMIN= 23.09:  SMAX=153.94:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:O-14Ch      483.00    2.419 No_date   29:44   16.71  n/a     .000
                     +     1.0 02:O-14          5.00     .181 No_date   28:04   15.77  n/a     .000
                  SUM=     1.0 01:OKEEFE      488.00    2.434 No_date   29:44   16.70  n/a     .000
#****************************************************************************
#     Okeefe Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#****************************************************************************
R0002:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-1-D2       18.67     .148 No_date   29:14   14.83 .326     .000
       [CN= 77.0:  N= 3.00:  Tp= 1.12]
       [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-1-D3        6.79     .049 No_date   29:26   14.83 .326     .000
       [CN= 77.0:  N= 3.00:  Tp= 1.28]
       [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_OK      53064.36   46.592 No_date   35:24   12.76  n/a     .000
                     +     1.0 02:OKEEFE      488.00    2.434 No_date   29:44   16.70  n/a     .000
                     +     1.0 02:S-1-D2       18.67     .148 No_date   29:14   14.83  n/a     .000
                     +     1.0 02:S-1-D3        6.79     .049 No_date   29:26   14.83  n/a     .000
                  SUM=     1.0 01:SN_OK     53577.82   47.423 No_date   34:58   12.80  n/a     .000
R0002:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_OK     53577.82   47.423 No_date   34:58   12.80  n/a     .000
       fname :SN_OK.0002
       remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0002:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:SN_OK     53577.82   47.423 No_date   34:58   12.80  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N_FO      53577.82   47.379 No_date   34:58   12.80  n/a     .000
       [L/S/n= 1183./ .076/.035]
       {Vmax=  .918:Dmax= 2.260}
#****************************************************************************
#     Catchment FOSTER
#     - To Foster ditch (north of the Jock)
#     - Partially developed (medium density); remaining agricultural
#     - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#     - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#     - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#****************************************************************************
R0002:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FOSTER      325.44   13.697 No_date   28:15   28.56 .628     .000
       [XIMP=.55:TIMP=.55]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#****************************************************************************
#     Foster Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#****************************************************************************
R0002:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:FOSTER      325.44   13.697 No_date   28:15   28.56  n/a     .000
                out  <=    1.0 01:P_FOS       325.44    3.894 No_date   29:12   28.56  n/a     .000
           overflow <=     1.0 03:FO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3766E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:P_FOS       325.44    3.894 No_date   29:12   28.56  n/a     .000
                     +     1.0 02:FO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:FOSTER-OUT  325.44    3.894 No_date   29:12   28.56  n/a     .000
#****************************************************************************
R0002:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA   73.29    4.584 No_date   28:07   31.34 .689     .000
       [XIMP=.60:TIMP=.65]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=  .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=  .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA   73.29    4.584 No_date   28:07   31.34  n/a     .000
                out  <=    1.0 01:MS_P10       73.29    1.033 No_date   28:50   31.34  n/a     .000
           overflow <=     1.0 03:P10-OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7493E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-1-FO-D2     4.94     .040 No_date   29:12   14.83 .326     .000
       [CN= 77.0:  N= 3.00:  Tp= 1.10]
```

```
         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
         [InterEventTime= 12.00]
R0002:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FOSTER-OUT    325.44    3.894 No_date   29:12   28.56  n/a     .000
                      +     1.0 02:S-1-FO-D2       4.94     .040 No_date   29:12   14.83  n/a     .000
                   SUM=     1.0 01:980           330.38    3.933 No_date   29:12   28.36  n/a     .000
R0002:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:980           330.38    3.933 No_date   29:12   28.36  n/a     .000
       fname :980.0002
       remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0002:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:980           330.38    3.933 No_date   29:12   28.36  n/a     .000
      [RDT= 1.00] out<-     1.0 01:980-out       330.38    3.804 No_date   29:25   28.36  n/a     .000
       [L/S/n=  460./ .043/.035]
       {Vmax=  .545:Dmax= 1.094}
R0002:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-FO-D1       5.11     .041 No_date   29:12   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
R0002:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:980-out       330.38    3.804 No_date   29:25   28.36  n/a     .000
                      +     1.0 02:S-1-FO-D1       5.11     .041 No_date   29:12   14.83  n/a     .000
                   SUM=     1.0 01:520           335.49    3.844 No_date   29:25   28.15  n/a     .000
R0002:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:520           335.49    3.844 No_date   29:25   28.15  n/a     .000
       fname :520.0002
       remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0002:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:520           335.49    3.844 No_date   29:25   28.15  n/a     .000
      [RDT= 1.00] out<-     1.0 01:520-out       335.49    3.807 No_date   29:32   28.15  n/a     .000
       [L/S/n=  860./ .587/.035]
       {Vmax= 1.199:Dmax=  .521}
R0002:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-FO-F-D     14.96     .128 No_date   29:05   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.01]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
R0002:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D8          5.27     .498 No_date   28:00   32.20 .707     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-A          75.88     .912 No_date   28:37   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
R0002:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:W_CLAR_UND     35.65     .286 No_date   29:12   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
R0002:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_FO        53577.82   47.379 No_date   34:58   12.80  n/a     .000
                      +     1.0 02:520-out       335.49    3.807 No_date   29:32   28.15  n/a     .000
                      +     1.0 02:MS_P10         73.29    1.033 No_date   28:50   31.34  n/a     .000
                      +     1.0 02:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:W_CLAR_UND     35.65     .286 No_date   29:12   14.83  n/a     .000
                      +     1.0 02:S-1-FO-F-D     14.96     .128 No_date   29:05   14.83  n/a     .000
                      +     1.0 02:S-1-D8          5.27     .498 No_date   28:00   32.20  n/a     .000
                      +     1.0 02:S-1-A          75.88     .912 No_date   28:37   14.83  n/a     .000
                   SUM=     1.0 01:SN_FO       54118.36   48.998 No_date   34:32   12.93  n/a     .000
R0002:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_FO       54118.36   48.998 No_date   34:32   12.93  n/a     .000
       fname :SN_FO.0002
       remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0002:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_FO       54118.36   48.998 No_date   34:32   12.93  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:N_CE        54118.36   48.989 No_date   34:40   12.93  n/a     .000
       [L/S/n=  159./ .082/.035]
       {Vmax= 1.113:Dmax= 2.623}
#****************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#****************************************************************************
R0002:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-B          55.36     .825 No_date   28:24   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp=  .45]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
#    - JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    - JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    - JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0002:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-D1         21.67     .178 No_date   29:10   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.07]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
R0002:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-D4          3.28     .026 No_date   29:12   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
R0002:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-D5         12.84     .103 No_date   29:12   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
R0002:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-D6          1.75     .014 No_date   29:12   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
R0002:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-D7          2.03     .016 No_date   29:12   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#****************************************************************************
R0002:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ       1.77     .141 No_date   28:00   27.78 .610     .000
       [XIMP=.46:TIMP=.59]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0002:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ       1.77     .141 No_date   28:00   27.78  n/a     .000
                 out <=     1.0 01:W_CLAR_MIn      1.77     .141 No_date   28:00   27.78  n/a     .000
            overflow <=     1.0 03:W_CLAR_MJj       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.6675E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40    7.746 No_date   28:06   31.34 .689     .000
       [XIMP=.60:TIMP=.65]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:W_CLAR_ALL    119.40    7.746 No_date   28:06   31.34  n/a     .000
                      +     1.0 02:W_CLAR_MJj       .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:W_CLAR        119.40    7.746 No_date   28:06   31.34  n/a     .000
R0002:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:W_CLAR        119.40    7.746 No_date   28:06   31.34  n/a     .000
       fname :W_CLAR.0002
       remark:Total Flows to West Clarke
#****************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#****************************************************************************
R0002:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:W_CLAR        119.40    7.746 No_date   28:06   31.34  n/a     .000
                 out <=     1.0 01:MS_P2         119.40     .816 No_date   29:25   31.34  n/a     .000
            overflow <=     1.0 03:P2-OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2096E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#****************************************************************************
R0002:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_CE        54118.36   48.989 No_date   34:40   12.93  n/a     .000
                      +     1.0 02:S-1-D4          3.28     .026 No_date   29:12   14.83  n/a     .000
                      +     1.0 02:S-1-D5         12.84     .103 No_date   29:12   14.83  n/a     .000
                      +     1.0 02:MS_P2         119.40     .816 No_date   29:25   31.34  n/a     .000
                      +     1.0 02:P2-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:SN_CE       54253.88   49.508 No_date   34:35   12.97  n/a     .000
R0002:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_CE       54253.88   49.508 No_date   34:35   12.97  n/a     .000
       fname :SN_CE.0002
       remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
# JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
R0002:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_CE       54253.88   49.508 No_date   34:35   12.97  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:5737        54253.88   48.656 No_date   37:03   12.97  n/a     .000
       [L/S/n=  270./ .018/.035]
       {Vmax=  .610:Dmax= 3.450}
R0002:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:5737        54253.88   48.656 No_date   37:03   12.97  n/a     .000
                      +     1.0 02:S-1-D1         21.67     .178 No_date   29:10   14.83  n/a     .000
                      +     1.0 02:S-1-D6          1.75     .014 No_date   29:12   14.83  n/a     .000
                      +     1.0 02:S-1-D7          2.03     .016 No_date   29:12   14.83  n/a     .000
                   SUM=     1.0 01:5002        54279.33   48.689 No_date   37:02   12.97  n/a     .000
R0002:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:5002        54279.33   48.689 No_date   37:02   12.97  n/a     .000
       fname :5002.0002
       remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0002:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:5002        54279.33   48.689 No_date   37:02   12.97  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_WCa       54279.33   48.725 No_date   36:35   12.97  n/a     .000
       [L/S/n=  245./ .095/.035]
       {Vmax=  .961:Dmax= 2.011}
R0002:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:N_WCa       54279.33   48.725 No_date   36:35   12.97  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_WCb       54279.33   48.698 No_date   36:50   12.97  n/a     .000
       [L/S/n=  245./ .095/.035]
       {Vmax=  .961:Dmax= 2.011}
R0002:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:N_WCb       54279.33   48.698 No_date   36:50   12.97  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_WC        54279.33   48.745 No_date   36:36   12.97  n/a     .000
       [L/S/n=  245./ .095/.035]
       {Vmax=  .961:Dmax= 2.011}
#****************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0002:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:N_WC        54279.33   48.745 No_date   36:36   12.97  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_KB        54279.33   48.700 No_date   36:46   12.97  n/a     .000
       [L/S/n= 1020./ .050/.035]
       {Vmax=  .848:Dmax= 2.425}
#****************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#****************************************************************************
#****************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#****************************************************************************
R0002:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82    1.627 No_date   28:18   14.35 .315     .000
       [XIMP=.10:TIMP=.40]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-01A         40.82    1.627 No_date   28:18   14.35  n/a     .000
      Major System  /       1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-01A-MN      40.82    1.627 No_date   28:18   14.35  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-01A-MN      40.82    1.627 No_date   28:18   14.35  n/a     .000
                   SUM=     1.0 01:KB-01A-S       40.82    1.627 No_date   28:18   14.35  n/a     .000
R0002:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10    1.062 No_date   28:08   16.28 .358     .000
       [XIMP=.19:TIMP=.38]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-01B         31.10    1.062 No_date   28:08   16.28  n/a     .000
      Major System  /       1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-01B-MN      31.10    1.062 No_date   28:08   16.28  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-01B-MN      31.10    1.062 No_date   28:08   16.28  n/a     .000
                   SUM=     1.0 01:KB-01B-S       31.10    1.062 No_date   28:08   16.28  n/a     .000
R0002:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78     .776 No_date   28:06   17.09 .375     .000
       [XIMP=.20:TIMP=.41]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-01C         13.78     .776 No_date   28:06   17.09  n/a     .000
      Major System  /       1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-01C-MN      13.78     .776 No_date   28:06   17.09  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-01C-MN      13.78     .776 No_date   28:06   17.09  n/a     .000
                   SUM=     1.0 01:KB-01C-S       13.78     .776 No_date   28:06   17.09  n/a     .000
R0002:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-03          84.78    3.788 No_date   28:12   16.73 .368     .000
       [XIMP=.20:TIMP=.39]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-03          84.78    3.788 No_date   28:12   16.73  n/a     .000
      Major System  /       1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-03-MN       84.78    3.788 No_date   28:12   16.73  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-03-MN       84.78    3.788 No_date   28:12   16.73  n/a     .000
                   SUM=     1.0 01:KB-03-S        84.78    3.788 No_date   28:12   16.73  n/a     .000
R0002:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-04           6.95     .792 No_date   28:01   38.80 .853     .000
       [XIMP=.85:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-04           6.95     .792 No_date   28:01   38.80  n/a     .000
      Major System  /       1.0 02:KB-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-04-MN        6.95     .503 No_date   27:53   39.02  n/a     .000
       {MjSysSto=.1541E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-04-MN        6.95     .503 No_date   27:53   39.02  n/a     .000
                   SUM=     1.0 01:KB-04-S         6.95     .503 No_date   27:53   39.02  n/a     .000
R0002:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-05           5.19     .653 No_date   28:01   41.29 .907     .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-06          12.93    1.683 No_date   28:00   39.68 .872     .000
       [XIMP=.87:TIMP=.87]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-06          12.93    1.683 No_date   28:00   39.68  n/a     .000
      Major System  /       1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-06-MN       12.93    1.683 No_date   28:00   39.68  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-06-MN       12.93    1.683 No_date   28:00   39.68  n/a     .000
                   SUM=     1.0 01:KB-06-S        12.93    1.683 No_date   28:00   39.68  n/a     .000
R0002:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-11           4.03     .425 No_date   28:00   32.17 .707     .000
       [XIMP=.68:TIMP=.68]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-11           4.03     .425 No_date   28:00   32.17  n/a     .000
      Major System  /       1.0 02:KB-11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-11-MN        4.03     .425 No_date   28:00   32.17  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-11-MN        4.03     .425 No_date   28:00   32.17  n/a     .000
                   SUM=     1.0 01:KB-11-S         4.03     .425 No_date   28:00   32.17  n/a     .000
R0002:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S1              4.99     .689 No_date   28:00   41.29 .907     .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-15           2.15     .241 No_date   28:00   37.11 .815     .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-01A-S       40.82    1.627 No_date   28:18   14.35  n/a     .000
```

```
                    +     1.0 02:KB-01B-S      31.10    1.062 No_date   28:08   16.28  n/a     .000
                    +     1.0 02:KB-01C-S      13.78     .776 No_date   28:06   17.09  n/a     .000
                    +     1.0 02:KB-03-S       84.78    3.788 No_date   28:12   16.73  n/a     .000
                    +     1.0 02:KB-04-S        6.95     .503 No_date   27:53   39.02  n/a     .000
                    +     1.0 02:KB-05          5.19     .653 No_date   28:01   41.29  n/a     .000
                    +     1.0 02:KB-06-S       12.93    1.683 No_date   28:00   39.68  n/a     .000
                    +     1.0 02:KB-11-S        4.03     .425 No_date   28:00   32.17  n/a     .000
                    +     1.0 02:KB-15          2.15     .241 No_date   28:00   37.11  n/a     .000
                    +     1.0 02:S1             4.99     .689 No_date   28:00   41.29  n/a     .000
                 SUM=     1.0 01:KB-P1        206.72    9.491 No_date   28:02   20.13  n/a     .000
R0002:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:KB-P1        206.72    9.491 No_date   28:02   20.13  n/a     .000
                out <=    1.0 01:KB-P1R       206.72    8.405 No_date   28:13   20.13  n/a     .000
           overflow <=    1.0 03:KB-P1ovf        .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3779E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-P1R       206.72    8.405 No_date   28:13   20.13  n/a     .000
                    +     1.0 02:KB-P1ovf        .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:KB-Pond1     206.72    8.405 No_date   28:13   20.13  n/a     .000
R0002:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:KB-Pond1     206.72    8.405 No_date   28:13   20.13  n/a     .000
      fname :KB-Pond1.0002
      remark:Total Flows at KB first pond
R0002:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-07         10.86    1.337 No_date   28:00   39.32 .864     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-07         10.86    1.337 No_date   28:00   39.32  n/a     .000
     Major System  /      1.0 02:KB-07-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-07-MN      10.86    1.337 No_date   28:00   39.32  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-07-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-07-MN      10.86    1.337 No_date   28:00   39.32  n/a     .000
                 SUM=     1.0 01:KB-07-S       10.86    1.337 No_date   28:00   39.32  n/a     .000
R0002:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-08          6.61     .651 No_date   28:00   30.82 .677     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-08          6.61     .651 No_date   28:00   30.82  n/a     .000
     Major System  /      1.0 02:KB-08-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-08-MN       6.61     .651 No_date   28:00   30.82  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-08-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-08-MN       6.61     .651 No_date   28:00   30.82  n/a     .000
                 SUM=     1.0 01:KB-08-S        6.61     .651 No_date   28:00   30.82  n/a     .000
R0002:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-09          2.60     .344 No_date   28:00   38.64 .849     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-10_1        2.37     .314 No_date   28:00   38.64 .849     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-10_2        1.14     .153 No_date   28:00   38.64 .849     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-12          4.86     .581 No_date   28:00   36.37 .799     .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-12          4.86     .581 No_date   28:00   36.37  n/a     .000
     Major System  /      1.0 02:KB-12-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-12-MN       4.86     .581 No_date   28:00   36.37  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-12-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-12-MN       4.86     .581 No_date   28:00   36.37  n/a     .000
                 SUM=     1.0 01:KB-12-S        4.86     .581 No_date   28:00   36.37  n/a     .000
R0002:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-13         10.19     .970 No_date   28:00   30.82 .677     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-13         10.19     .970 No_date   28:00   30.82  n/a     .000
     Major System  /      1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-13-MN      10.19     .970 No_date   28:00   30.82  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-13-MN      10.19     .970 No_date   28:00   30.82  n/a     .000
                 SUM=     1.0 01:KB-13-S       10.19     .970 No_date   28:00   30.82  n/a     .000
R0002:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-14          5.47     .543 No_date   28:00   30.82 .677     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-14          5.47     .543 No_date   28:00   30.82  n/a     .000
     Major System  /      1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-14-MN       5.47     .543 No_date   28:00   30.82  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-14-MN       5.47     .543 No_date   28:00   30.82  n/a     .000
                 SUM=     1.0 01:KB-14-S        5.47     .543 No_date   28:00   30.82  n/a     .000
R0002:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-16_2        3.42     .337 No_date   28:01   33.97 .746     .000
      [XIMP=.71:TIMP=.71]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-Pond1     206.72    8.405 No_date   28:13   20.13  n/a     .000
                    +     1.0 02:KB-07-S       10.86    1.337 No_date   28:00   39.32  n/a     .000
                    +     1.0 02:KB-08-S        6.61     .651 No_date   28:00   30.82  n/a     .000
                    +     1.0 02:KB-09          2.60     .344 No_date   28:00   38.64  n/a     .000
                    +     1.0 02:KB-10_1        2.37     .314 No_date   28:00   38.64  n/a     .000
                    +     1.0 02:KB-10_2        1.14     .153 No_date   28:00   38.64  n/a     .000
                    +     1.0 02:KB-12-S        4.86     .581 No_date   28:00   36.37  n/a     .000
                    +     1.0 02:KB-13-S       10.19     .970 No_date   28:00   30.82  n/a     .000
                    +     1.0 02:KB-14-S        5.47     .543 No_date   28:00   30.82  n/a     .000
                    +     1.0 02:KB-16_2        3.42     .337 No_date   28:01   33.97  n/a     .000
                 SUM=     1.0 01:KB-P2        254.24   11.772 No_date   28:02   22.82  n/a     .000
R0002:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:KB-P2        254.24   11.772 No_date   28:02   22.82  n/a     .000
                out <=    1.0 01:KB-P2R       254.24    9.930 No_date   28:12   22.82  n/a     .000
           overflow <=    1.0 03:KB-P2ovf        .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4507E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-P2R       254.24    9.930 No_date   28:12   22.82  n/a     .000
                    +     1.0 02:KB-P2ovf        .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:KB-Pond2     254.24    9.930 No_date   28:12   22.82  n/a     .000
R0002:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:KB-Pond2     254.24    9.930 No_date   28:12   22.82  n/a     .000
      fname :KB-Pond2.0002
      remark:Total Flows at KB second pond
R0002:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-16_1        2.80     .293 No_date   28:01   35.54 .781     .000
      [XIMP=.75:TIMP=.75]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-Pond2     254.24    9.930 No_date   28:12   22.82  n/a     .000
                    +     1.0 02:KB-16_1        2.80     .293 No_date   28:01   35.54  n/a     .000
                 SUM=     1.0 01:KB-P3        257.04   10.049 No_date   28:11   22.96  n/a     .000
R0002:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:KB-P3        257.04   10.049 No_date   28:11   22.96  n/a     .000
                out <=    1.0 01:KB-P3R        18.54     .051 No_date   18:09   22.96  n/a     .000
           overflow <=    1.0 03:KB-P3ovf     238.50    9.997 No_date   28:11   22.96  n/a     .000
     {MxStoUsed=.2001E-02  m3, TotOvfVol=.5477E+01  m3, N-Ovf=    1, TotDurOvf=   22.hrs}
R0002:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-P3R        18.54     .051 No_date   18:09   22.96  n/a     .000
                    +     1.0 02:KB-P3ovf     238.50    9.997 No_date   28:11   22.96  n/a     .000
                 SUM=     1.0 01:KB-Pond3     257.04   10.048 No_date   28:11   22.96  n/a     .000
R0002:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:KB-Pond3     257.04   10.048 No_date   28:11   22.96  n/a     .000
      fname :KB-Pond3.0002
      remark:Total Flows at KB third pond
#****************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#****************************************************************************
R0002:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FC-01          8.03     .575 No_date   28:01   23.89 .525     .000
      [XIMP=.47:TIMP=.47]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FC-01          8.03     .575 No_date   28:01   23.89  n/a     .000
     Major System  /      1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:FC-01-MN       8.03     .575 No_date   28:01   23.89  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:FC-01-MN       8.03     .575 No_date   28:01   23.89  n/a     .000
                 SUM=     1.0 01:FC-01-S        8.03     .575 No_date   28:01   23.89  n/a     .000
R0002:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FC-02         16.05    1.936 No_date   28:01   41.29 .907     .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FC-02         16.05    1.936 No_date   28:01   41.29  n/a     .000
     Major System  /      1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:FC-02-MN      16.05    1.159 No_date   27:52   41.31  n/a     .000
      {MjSysSto=.4641E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:FC-02-MN      16.05    1.159 No_date   27:52   41.31  n/a     .000
                 SUM=     1.0 01:FC-02-S       16.05    1.159 No_date   27:52   41.31  n/a     .000
R0002:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FC-03          7.37     .687 No_date   28:01   30.32 .666     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FC-03          7.37     .687 No_date   28:01   30.32  n/a     .000
     Major System  /      1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:FC-03-MN       7.37     .358 No_date   27:49   30.49  n/a     .000
      {MjSysSto=.2043E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:FC-03-MN       7.37     .358 No_date   27:49   30.49  n/a     .000
                 SUM=     1.0 01:FC-03-S        7.37     .358 No_date   27:49   30.49  n/a     .000
R0002:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FC-04         12.87    1.148 No_date   28:01   30.32 .666     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FC-04         12.87    1.148 No_date   28:01   30.32  n/a     .000
     Major System  /      1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:FC-04-MN      12.87     .741 No_date   27:53   30.44  n/a     .000
      {MjSysSto=.2134E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:FC-04-MN      12.87     .741 No_date   27:53   30.44  n/a     .000
                 SUM=     1.0 01:FC-04-S       12.87     .741 No_date   27:53   30.44  n/a     .000
#****************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#****************************************************************************
R0002:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:JR-01          8.24     .764 No_date   28:01   30.32 .666     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:JR-01          8.24     .764 No_date   28:01   30.32  n/a     .000
     Major System  /      1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:JR-01-MN       8.24     .563 No_date   28:13   30.43  n/a     .000
      {MjSysSto=.8257E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:JR-01-MN       8.24     .563 No_date   27:55   30.43  n/a     .000
                 SUM=     1.0 01:JR-01-S        8.24     .563 No_date   27:55   30.43  n/a     .000
R0002:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:JR-02          1.59     .162 No_date   28:00   30.32 .666     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:JR-02          1.59     .162 No_date   28:00   30.32  n/a     .000
     Major System  /      1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:JR-02-MN       1.59     .153 No_date   27:58   30.45  n/a     .000
      {MjSysSto=.1236E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:JR-02-MN       1.59     .153 No_date   27:58   30.45  n/a     .000
                 SUM=     1.0 01:JR-02-S        1.59     .153 No_date   27:58   30.45  n/a     .000
#****************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#****************************************************************************
R0002:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:FRASER-DRN    13.65     .212 No_date   28:22   14.83 .326     .000
      [CN= 77.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0002:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:FRASER-D      21.61     .245 No_date   28:41   14.83 .326     .000
      [CN= 77.0: N= 3.00: Tp=  .67]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0002:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-Pond3     257.04   10.048 No_date   28:11   22.96  n/a     .000
                    +     1.0 02:S-1-B         55.36     .825 No_date   28:24   14.83  n/a     .000
                    +     1.0 02:FRASER-DRN    13.65     .212 No_date   28:22   14.83  n/a     .000
                    +     1.0 02:FRASER-D      21.61     .245 No_date   28:41   14.83  n/a     .000
                    +     1.0 02:N_KB       54279.33   48.700 No_date   36:46   12.97  n/a     .000
                    +     1.0 02:FC-01-S        8.03     .575 No_date   28:01   23.89  n/a     .000
                    +     1.0 02:FC-02-S       16.05    1.159 No_date   27:52   41.31  n/a     .000
                    +     1.0 02:FC-03-S        7.37     .358 No_date   27:49   30.49  n/a     .000
                 SUM=     1.0 01:4241       54658.44   49.005 No_date   36:45   13.03  n/a     .000
R0002:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:4241       54658.44   49.005 No_date   36:45   13.03  n/a     .000
      fname :4241.0002
      remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0002:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:4241       54658.44   49.005 No_date   36:45   13.03  n/a     .000
     [RDT= 1.00] out<-    1.0 01:4241-out   54658.44   48.957 No_date   37:04   13.03  n/a     .000
      [L/S/n=  294./ .109/.035]
      {Vmax=  .962:Dmax= 1.546}
R0002:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:4241-out   54658.44   48.957 No_date   37:04   13.03  n/a     .000
                    +     1.0 02:FC-04-S       12.87     .741 No_date   27:53   30.44  n/a     .000
                    +     1.0 02:JR-01-S        8.24     .563 No_date   27:55   30.43  n/a     .000
                    +     1.0 02:JR-02-S        1.59     .153 No_date   27:58   30.45  n/a     .000
                 SUM=     1.0 01:SN_KB      54681.13   48.979 No_date   37:04   13.04  n/a     .000
R0002:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_KB      54681.13   48.979 No_date   37:04   13.04  n/a     .000
      fname :SN_KB.0002
      remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0002:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_KB      54681.13   48.979 No_date   37:04   13.04  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_TO       54681.13   48.971 No_date   37:11   13.04  n/a     .000
      [L/S/n=  608./ .247/.035]
      {Vmax= 1.300:Dmax= 1.137}
#****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#****************************************************************************
R0002:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Greenbank     36.60    2.954 No_date   28:02   32.54 .715     .000
      [XIMP=.64:TIMP=.68]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Greenbank     36.60    2.954 No_date   28:02   32.54  n/a     .000
                out <=    1.0 01:GreenB_MN     36.60     .569 No_date   28:38   32.54  n/a     .000
           overflow <=    1.0 03:GreenB_MJ       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6052E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_TO       54681.13   48.971 No_date   37:11   13.04  n/a     .000
                    +     1.0 02:GreenB_MJ       .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:GreenB_MN     36.60     .569 No_date   28:38   32.54  n/a     .000
                 SUM=     1.0 01:GreenB     54717.73   49.055 No_date   37:10   13.05  n/a     .000
R0002:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:GreenB     54717.73   49.055 No_date   37:10   13.05  n/a     .000
      fname :GreenB.0002
      remark:Total Flows at Greenbank Drain
#****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
```

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#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#***************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0002:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_MN2        2.10      .179 No_date    28:00   28.91 .635      .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_MN3         .12      .011 No_date    28:00   28.91 .635      .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_MJ        30.23     2.154 No_date    28:03   29.64 .651      .000
        [XIMP=.52:TIMP=.64]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_ALL      112.91     6.553 No_date    28:06   28.70 .631      .000
        [XIMP=.52:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_P          3.06      .295 No_date    28:00   31.76 .698      .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0002:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD_MJ        30.23     2.154 No_date    28:03   29.64  n/a      .000
 *               out <=    1.0 01:TODD_MJn       30.23     2.154 No_date    28:03   29.64  n/a      .000
            overflow <=    1.0 03:TODD_MJj         .00      .000 No_date     0:00     .00  n/a      .000
       {MxStoUsed=.6551E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0002:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD_MN2        2.10      .179 No_date    28:00   28.91  n/a      .000
                 out <=    1.0 01:TODD_MN2n       2.10      .179 No_date    28:00   28.91  n/a      .000
            overflow <=    1.0 03:TODD_MN2j        .00      .000 No_date     0:00     .00  n/a      .000
       {MxStoUsed=.6761E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD_MN3         .12      .011 No_date    28:00   28.91  n/a      .000
                 out <=    1.0 01:TODD_MN3n        .12      .010 No_date    28:00   28.91  n/a      .000
            overflow <=    1.0 03:TODD_MN3j        .00      .000 No_date     0:00     .00  n/a      .000
       {MxStoUsed=.6566E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A2             25.50     1.427 No_date    28:04   25.60 .563      .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A2             25.50     1.427 No_date    28:04   25.60  n/a      .000
      Major System  /      1.0 02:A2-MJ            .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:A2-MN          25.50     1.427 No_date    28:04   25.60  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:TODD_MN2n       2.10      .179 No_date    28:00   28.91  n/a      .000
                     +     1.0 02:TODD_MN3n        .12      .010 No_date    28:00   28.91  n/a      .000
                     +     1.0 02:TODD_MJj         .00      .000 No_date     0:00     .00  n/a      .000
                     +     1.0 02:TODD_P          3.06      .295 No_date    28:00   31.77  n/a      .000
                     +     1.0 02:TODD_ALL      112.91     6.553 No_date    28:06   28.70  n/a      .000
                     +     1.0 02:W_CLAR_MJn      1.77      .141 No_date    28:00   27.78  n/a      .000
                  SUM=     1.0 01:TODD          119.95     6.882 No_date    28:05   28.77  n/a      .000
R0002:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:TODD          119.95     6.882 No_date    28:05   28.77  n/a      .000
        fname :TODD.0002
        remark:Total Flows at Todd Drain
#***************************************************************************
#     Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#***************************************************************************
R0002:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD          119.95     6.882 No_date    28:05   28.77  n/a      .000
                 out <=    1.0 01:MS_P3         119.95     1.033 No_date    29:08   28.76  n/a      .000
            overflow <=    1.0 03:P3-OVF           .00      .000 No_date     0:00     .00  n/a      .000
       {MxStoUsed=.2183E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:GreenB      54717.73    49.055 No_date    37:10   13.05  n/a      .000
                     +     1.0 02:MS_P3         119.95     1.033 No_date    29:08   28.76  n/a      .000
                     +     1.0 02:P3-OVF           .00      .000 No_date     0:00     .00  n/a      .000
                     +     1.0 02:TODD_MN2j        .00      .000 No_date     0:00     .00  n/a      .000
                     +     1.0 02:A2-MJ            .00      .000 No_date     0:00     .00  n/a      .000
                  SUM=     1.0 01:SN_TO       54837.69    49.202 No_date    37:09   13.08  n/a      .000
R0002:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_TO       54837.69    49.202 No_date    37:09   13.08  n/a      .000
        fname :SN_TO.0002
        remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0002:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_TO       54837.69    49.202 No_date    37:09   13.08  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_TO        54837.69    48.869 No_date    38:25   13.08  n/a      .000
        [L/S/n=  280./ .050/.045]
        {Vmax=  .730:Dmax= 2.134}
R0002:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:N_TO        54837.69    48.869 No_date    38:25   13.08  n/a      .000
        fname :N_TO.0002
        remark:Total inflows at Station 2462
#***************************************************************************
#     Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#***************************************************************************
R0002:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:corr1          15.87     1.352 No_date    28:02   31.77 .698      .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:corr1          15.87     1.352 No_date    28:02   31.77  n/a      .000
      Major System  /      1.0 02:corr1-MJ         .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:corr1-MN       15.87     1.352 No_date    28:02   31.77  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:corr2          12.47      .100 No_date    29:12   14.83 .326      .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0002:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A1-Corrig      15.75      .982 No_date    28:02   25.60 .563      .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A1-Corrig      15.75      .982 No_date    28:02   25.60  n/a      .000
      Major System  /      1.0 02:A1-MJ            .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:A1-MN          15.75      .982 No_date    28:02   25.60  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:B1              2.77      .033 No_date    28:09    9.64 .212      .000
        [CN= 56.0: N= 3.00: Tp=  .23]
        [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
        [InterEventTime=  12.00]
R0002:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A4              1.27      .116 No_date    28:01   32.20 .707      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A4              1.27      .116 No_date    28:01   32.20  n/a      .000
      Major System  /      1.0 02:A4-MJ            .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:A4-MN           1.27      .116 No_date    28:01   32.20  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A1-MJ            .00      .000 No_date     0:00     .00  n/a      .000
                     +     1.0 02:A1-MN          15.75      .982 No_date    28:02   25.60  n/a      .000
                     +     1.0 02:corr1-MJ         .00      .000 No_date     0:00     .00  n/a      .000
                     +     1.0 02:corr1-MN       15.87     1.352 No_date    28:02   31.77  n/a      .000
                     +     1.0 02:corr2          12.47      .100 No_date    29:12   14.83  n/a      .000
                     +     1.0 02:B1              2.77      .033 No_date    28:09    9.64  n/a      .000
                     +     1.0 02:A4-MN           1.27      .116 No_date    28:01   32.20  n/a      .000
                  SUM=     1.0 01:MH101          48.13     2.497 No_date    28:02   24.10  n/a      .000
R0002:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH101          48.13     2.497 No_date    28:02   24.10  n/a      .000
        fname :MH101.0002
        remark:Total Flows at MH101
R0002:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH101          48.13     2.497 No_date    28:02   24.10  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:101-102        48.13     2.412 No_date    28:03   24.10  n/a      .000
        [L/S/n=  368./ .540/.013]
        {Vmax= 2.789:Dmax=  .935}
        [Din= 1.05:Dused= 1.14}
R0002:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A2-MN          25.50     1.427 No_date    28:04   25.60  n/a      .000
                     +     1.0 02:101-102        48.13     2.412 No_date    28:03   24.10  n/a      .000
                  SUM=     1.0 01:MH102          73.63     3.837 No_date    28:03   24.62  n/a      .000
R0002:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH102          73.63     3.837 No_date    28:03   24.62  n/a      .000
        fname :MH102.0002
        remark:Total Flows at MH102
R0002:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A5              1.60      .155 No_date    28:01   34.21 .752      .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A4-MJ            .00      .000 No_date     0:00     .00  n/a      .000
                     +     1.0 02:A5              1.60      .155 No_date    28:01   34.21  n/a      .000
                  SUM=     1.0 01:A5T             1.60      .155 No_date    28:01   34.21  n/a      .000
R0002:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A5T             1.60      .155 No_date    28:01   34.21  n/a      .000
      Major System  /      1.0 02:A5-MJ            .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:A5-MN           1.60      .155 No_date    28:01   34.21  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH102          73.63     3.837 No_date    28:03   24.62  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:102-103        73.63     3.600 No_date    28:05   24.62  n/a      .000
        [L/S/n=  504./ .280/.013]
        {Vmax= 2.428:Dmax= 1.243}
        [Din= 1.50:Dused= 1.51}
R0002:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:102-103        73.63     3.600 No_date    28:05   24.62  n/a      .000
                     +     1.0 02:A5-MN           1.60      .155 No_date    28:01   34.21  n/a      .000
                  SUM=     1.0 01:MH103          75.23     3.728 No_date    28:05   24.82  n/a      .000
R0002:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH103          75.23     3.728 No_date    28:05   24.82  n/a      .000
        fname :MH103.0002
        remark:Total Flows at MH103
R0002:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH103          75.23     3.728 No_date    28:05   24.82  n/a      .000
      [RDT= 1.00] out<-    1.0 01:103-104        75.23     3.629 No_date    28:07   24.82  n/a      .000
        [L/S/n=  438./ .460/.013]
        {Vmax= 3.024:Dmax=  .924}
        [Din= 1.65:Dused= 1.65}
R0002:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A6              1.56      .152 No_date    28:01   34.21 .752      .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A5-MJ            .00      .000 No_date     0:00     .00  n/a      .000
                     +     1.0 02:A6              1.56      .152 No_date    28:01   34.21  n/a      .000
                  SUM=     1.0 01:A6T             1.56      .152 No_date    28:01   34.21  n/a      .000
R0002:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A6T             1.56      .152 No_date    28:01   34.21  n/a      .000
      Major System  /      1.0 02:A6-MJ            .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:A6-MN           1.56      .152 No_date    28:01   34.21  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A6-MN           1.56      .152 No_date    28:01   34.21  n/a      .000
                     +     1.0 02:103-104        75.23     3.629 No_date    28:07   24.82  n/a      .000
                     +     1.0 02:TODD_MJn       30.23     2.154 No_date    28:03   29.64  n/a      .000
                  SUM=     1.0 01:MH104         107.02     5.765 No_date    28:05   26.32  n/a      .000
R0002:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH104         107.02     5.765 No_date    28:05   26.32  n/a      .000
        fname :MH104.0002
        remark:Total Flows at MH104
R0002:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B2             12.31      .731 No_date    28:03   25.66 .564      .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B2             12.31      .731 No_date    28:03   25.66  n/a      .000
      Major System  /      1.0 02:B2-MJ            .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:B2-MN          12.31      .731 No_date    28:03   25.66  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:B2-MN          12.31      .731 No_date    28:03   25.66  n/a      .000
      [RDT= 1.00] out<-    1.0 01:315-333        12.31      .675 No_date    28:04   25.66  n/a      .000
        [L/S/n=  254./ .100/.013]
        {Vmax= 1.136:Dmax=  .665}
        [Din= 1.20:Dused= 1.20}
R0002:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B3              5.59      .346 No_date    28:02   25.66 .564      .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B3              5.59      .346 No_date    28:02   25.66  n/a      .000
      Major System  /      1.0 02:B3-MJ            .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:B3-MN           5.59      .346 No_date    28:02   25.66  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B3-MN           5.59      .346 No_date    28:02   25.66  n/a      .000
                     +     1.0 02:315-333        12.31      .675 No_date    28:04   25.66  n/a      .000
                  SUM=     1.0 01:MH333          17.90     1.009 No_date    28:04   25.66  n/a      .000
R0002:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH333          17.90     1.009 No_date    28:04   25.66  n/a      .000
        fname :MH333.0002
        remark:Total Flows at MH333
R0002:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH333          17.90     1.009 No_date    28:04   25.66  n/a      .000
      [RDT= 1.00] out<-    1.0 01:333-335        17.90      .937 No_date    28:05   25.66  n/a      .000
        [L/S/n=  251./ .100/.013]
        {Vmax= 1.217:Dmax=  .826}
        [Din= 1.20:Dused= 1.20}
R0002:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:333-335        17.90      .937 No_date    28:05   25.66  n/a      .000
      [RDT= 1.00] out<-    1.0 01:335-338        17.90      .888 No_date    28:07   25.66  n/a      .000
        [L/S/n=  185./ .100/.013]
        {Vmax= 1.199:Dmax=  .782}
        [Din= 1.20:Dused= 1.20}
R0002:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:335-338        17.90      .888 No_date    28:07   25.66  n/a      .000
      [RDT= 1.00] out<-    1.0 01:338-340        17.90      .838 No_date    28:08   25.66  n/a      .000
        [L/S/n=  233./ .100/.013]
        {Vmax= 1.194:Dmax=  .695}
        [Din= 1.35:Dused= 1.35}
R0002:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B4              7.60      .459 No_date    28:02   25.66 .564      .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B4              7.60      .459 No_date    28:02   25.66  n/a      .000
      Major System  /      1.0 02:B4-MJ            .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:B4-MN           7.60      .459 No_date    28:02   25.66  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:338-340        17.90      .838 No_date    28:08   25.66  n/a      .000
                     +     1.0 02:B4-MN           7.60      .459 No_date    28:02   25.66  n/a      .000
                  SUM=     1.0 01:MH340          25.50     1.234 No_date    28:05   25.66  n/a      .000
R0002:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH340          25.50     1.234 No_date    28:05   25.66  n/a      .000
        fname :MH340.0002
        remark:Total Flows at MH340
R0002:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH340          25.50     1.234 No_date    28:05   25.66  n/a      .000
      [RDT= 1.00] out<-    1.0 01:340-104        25.50     1.182 No_date    28:07   25.66  n/a      .000
        [L/S/n=  240./ .150/.013]
        {Vmax= 1.502:Dmax=  .672}
        [Din= 1.65:Dused= 1.65}
R0002:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:340-104        25.50     1.182 No_date    28:07   25.66  n/a      .000
                     +     1.0 02:MH104         107.02     5.765 No_date    28:05   26.32  n/a      .000
                  SUM=     1.0 01:MH104T        132.52     6.925 No_date    28:05   26.19  n/a      .000
R0002:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH104T        132.52     6.925 No_date    28:05   26.19  n/a      .000
      [RDT= 1.00] out<-    1.0 01:104-105       132.52     6.452 No_date    28:06   26.19  n/a      .000
        [L/S/n=  380./ .100/.013]
        {Vmax= 1.871:Dmax= 1.542}
        {HGTH= 2.10:WDTH= 2.40}
R0002:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B5              2.20      .187 No_date    28:00   29.51 .648      .000
        [XIMP=.57:TIMP=.57]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B5              2.20      .187 No_date    28:00   29.51  n/a      .000
      Major System  /      1.0 02:B5-MJ            .00      .000 No_date     0:00     .00  n/a      .000
      Minor System  \      1.0 03:B5-MN           2.20      .187 No_date    28:00   29.51  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
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R0002:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A8                .96     .099 No_date   28:00   34.21 .752     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:A8                .96     .099 No_date   28:00   34.21  n/a     .000
                    SUM=   1.0 01:A8T               .96     .099 No_date   28:00   34.21  n/a     .000
R0002:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A8T               .96     .099 No_date   28:00   34.21  n/a     .000
      Major System  /      1.0 02:A8-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:A8-MN             .96     .099 No_date   28:00   34.21  n/a     .000
       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:104-105        132.52    6.452 No_date   28:06   26.19  n/a     .000
                       +   1.0 02:B5-MN            2.20     .187 No_date   28:00   29.51  n/a     .000
                       +   1.0 02:A8-MN             .96     .099 No_date   28:00   34.21  n/a     .000
                       +   1.0 02:TODD_MN3j         .00     .000 No_date    0:00     .00  n/a     .000
                    SUM=   1.0 01:MH105          135.68    6.624 No_date   28:06   26.30  n/a     .000
R0002:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH105          135.68    6.624 No_date   28:06   26.30  n/a     .000
       fname :MH105.0002
       remark:Total Flows at MH105
R0002:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *   DIVERT HYD      ->    1.0 01:A8-MJ             .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=    1.0 02:A8-MJ-JR          .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=    1.0 03:A8-MJ-B6          .00     .000 No_date    0:00     .00  n/a     .000
R0002:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     DIVERT HYD      ->    1.0 01:MH105          135.68    6.624 No_date   28:06   26.30  n/a     .000
            diverted <=    1.0 02:MH105-JR        16.59    3.620 No_date   28:06   26.30  n/a     .000
            diverted <=    1.0 03:MH105-B6       119.09    3.004 No_date   28:06   26.30  n/a     .000
R0002:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B7               7.19     .479 No_date   28:01   25.66 .564     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B4-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:B7               7.19     .479 No_date   28:01   25.66  n/a     .000
                    SUM=   1.0 01:B7-B4MJ          7.19     .479 No_date   28:01   25.66  n/a     .000
R0002:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B7-B4MJ          7.19     .479 No_date   28:01   25.66  n/a     .000
      Major System  /      1.0 02:B7R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:B7R-MN           7.19     .479 No_date   28:01   25.66  n/a     .000
       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:B7R-MN           7.19     .479 No_date   28:01   25.66  n/a     .000
      [RDT= 1.00] out<-    1.0 01:360-106A         7.19     .451 No_date   28:02   25.66  n/a     .000
       [L/S/n=  167./ .100/.013]
       {Vmax= 1.023:Dmax=  .558}
       [Din= 1.05:Dused= 1.05}
R0002:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B6               3.29     .229 No_date   28:00   25.66 .564     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B6               3.29     .229 No_date   28:00   25.66  n/a     .000
      Major System  /      1.0 02:B6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:B6-MN            3.29     .064 No_date   27:43   25.67  n/a     .000
       {MjSysSto=.1576E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:EX-LAND         32.50    2.093 No_date   28:02   26.85 .590     .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0002:C00351-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:EX-LAND         32.50    2.093 No_date   28:02   26.85  n/a     .000
      Major System  /      1.0 02:EX-LAND-MJ        .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:EX-LAND-MN      32.50    2.093 No_date   28:02   26.85  n/a     .000
       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00352-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B7R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:EX-LAND-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:B5-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:B6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:B6-MN            3.29     .064 No_date   27:43   25.67  n/a     .000
                       +   1.0 02:A8-MJ-B6          .00     .000 No_date    0:00     .00  n/a     .000
                    SUM=   1.0 01:B6-B7ExMJ        3.29     .064 No_date   27:43   25.67  n/a     .000
R0002:C00353-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B6-B7ExMJ        3.29     .064 No_date   27:43   25.67  n/a     .000
      Major System  /      1.0 02:B6R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:B6R-MN           3.29     .064 No_date   27:43   25.67  n/a     .000
       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00354-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH105-B6       119.09    3.004 No_date   28:06   26.30  n/a     .000
      [RDT= 1.00] out<-    1.0 01:105-106A       119.09    3.006 No_date   28:08   26.30  n/a     .000
       [L/S/n=  208./ .100/.013]
       {Vmax= 1.596:Dmax= 1.247}
       [Din= 1.80:Dused= 1.80}
R0002:C00355-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:360-106A         7.19     .451 No_date   28:02   25.66  n/a     .000
                       +   1.0 02:105-106A       119.09    3.006 No_date   28:08   26.30  n/a     .000
                       +   1.0 02:B6R-MN           3.29     .064 No_date   27:43   25.67  n/a     .000
                       +   1.0 02:B6R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                    SUM=   1.0 01:MH106A         129.57    3.466 No_date   28:03   26.25  n/a     .000
R0002:C00356-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH106A         129.57    3.466 No_date   28:03   26.25  n/a     .000
       fname :MH106A.0002
       remark:Total Flows at MH106A
R0002:C00357-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH106A         129.57    3.466 No_date   28:03   26.25  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:106A-106       129.57    3.450 No_date   28:04   26.25  n/a     .000
       [L/S/n=  190./ .100/.013]
       {Vmax= 1.626:Dmax= 1.406}
       [Din= 1.80:Dused= 1.80}
R0002:C00358-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A9               2.44     .240 No_date   28:01   34.21 .752     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00359-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A9               2.44     .240 No_date   28:01   34.21  n/a     .000
      Major System  /      1.0 02:A9-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:A9-MN            2.44     .240 No_date   28:01   34.21  n/a     .000
R0002:C00360-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:106A-106       129.57    3.450 No_date   28:04   26.25  n/a     .000
                       +   1.0 02:A9-MN            2.44     .240 No_date   28:01   34.21  n/a     .000
                    SUM=   1.0 01:MH106          132.01    3.666 No_date   28:03   26.40  n/a     .000
R0002:C00361-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH106          132.01    3.666 No_date   28:03   26.40  n/a     .000
       fname :MH106.0002
       remark:Total Flows at MH106
R0002:C00362-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH106          132.01    3.666 No_date   28:03   26.40  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:106-107        132.01    3.602 No_date   28:06   26.40  n/a     .000
       [L/S/n=  123./ .100/.013]
       {Vmax= 1.631:Dmax= 1.482}
       [Din= 1.80:Dused= 1.81}
R0002:C00363-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A10              4.14     .246 No_date   28:01   23.49 .516     .000
       [XIMP=.35:TIMP=.47]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00364-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A10              4.14     .246 No_date   28:01   23.49  n/a     .000
      Major System  /      1.0 02:A10-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:A10-MN           4.14     .246 No_date   28:01   23.49  n/a     .000
       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00365-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A11             10.61     .781 No_date   28:02   29.20 .642     .000
       [XIMP=.53:TIMP=.62]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00366-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A11             10.61     .781 No_date   28:02   29.20  n/a     .000
      Major System  /      1.0 02:A11-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:A11-MN          10.61     .781 No_date   28:02   29.20  n/a     .000
       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00367-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:106-107        132.01    3.602 No_date   28:06   26.40  n/a     .000
                       +   1.0 02:A10-MN           4.14     .246 No_date   28:01   23.49  n/a     .000
                       +   1.0 02:A11-MN          10.61     .781 No_date   28:02   29.20  n/a     .000
                    SUM=   1.0 01:MH107          146.76    4.589 No_date   28:02   26.52  n/a     .000
R0002:C00368-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH107          146.76    4.589 No_date   28:02   26.52  n/a     .000
       fname :MH107.0002
       remark:Total Flows at MH107
R0002:C00369-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH107          146.76    4.589 No_date   28:02   26.52  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:107-119        146.76    4.493 No_date   28:07   26.52  n/a     .000
       [L/S/n=  114./ .120/.013]
       {Vmax= 1.848:Dmax= 1.558}
       [Din= 1.80:Dused= 1.90}
R0002:C00370-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:107-119        146.76    4.493 No_date   28:07   26.52  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:119-108        146.76    4.469 No_date   28:07   26.52  n/a     .000
       [L/S/n=   66./ .120/.013]
       {Vmax= 1.838:Dmax= 1.546}
       [Din= 1.80:Dused= 1.88}
R0002:C00371-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A12             12.29     .834 No_date   28:01   25.66 .564     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00372-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A12             12.29     .834 No_date   28:01   25.66  n/a     .000
      Major System  /      1.0 02:A12-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:A12-MN          12.29     .834 No_date   28:01   25.66  n/a     .000
       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00373-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A13              2.59     .239 No_date   28:02   34.21 .752     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00374-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A13              2.59     .239 No_date   28:02   34.21  n/a     .000
      Major System  /      1.0 02:A13-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:A13-MN           2.59     .239 No_date   28:02   34.21  n/a     .000
R0002:C00375-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Pond-Block       2.94     .190 No_date   28:01   24.31 .534     .000
       [XIMP=.41:TIMP=.41]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00376-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:119-108        146.76    4.469 No_date   28:07   26.52  n/a     .000
                       +   1.0 02:A13-MN           2.59     .239 No_date   28:02   34.21  n/a     .000
                       +   1.0 02:A12-MN          12.29     .834 No_date   28:01   25.66  n/a     .000
                    SUM=   1.0 01:MH108          161.64    5.450 No_date   28:03   26.58  n/a     .000
R0002:C00377-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH108          161.64    5.450 No_date   28:03   26.58  n/a     .000
       fname :MH108.0002
       remark:Total Flows at MH108
R0002:C00378-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH108          161.64    5.450 No_date   28:03   26.58  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:108-116        161.64    5.396 No_date   28:04   26.58  n/a     .000
       [L/S/n=   77./ .130/.013]
       {Vmax= 1.987:Dmax= 1.637}
       [Din= 1.80:Dused= 1.99}
R0002:C00379-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:108-116        161.64    5.396 No_date   28:04   26.58  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:116-corrig     161.64    5.363 No_date   28:04   26.58  n/a     .000
       [L/S/n=   80./ .130/.013]
       {Vmax= 1.983:Dmax= 1.631}
       [Din= 1.80:Dused= 1.99}
R0002:C00380-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:116-corrig     161.64    5.363 No_date   28:04   26.58  n/a     .000
                       +   1.0 02:Pond-Block       2.94     .190 No_date   28:01   24.31  n/a     .000
                    SUM=   1.0 01:Corrigan       164.58    5.522 No_date   28:04   26.54  n/a     .000
R0002:C00381-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:Corrigan       164.58    5.522 No_date   28:04   26.54  n/a     .000
       fname :Corrigan.0002
       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0002:C00382-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Corrigan       164.58    5.522 No_date   28:04   26.54  n/a     .000
                 out <=    1.0 01:Co-P           164.58    4.479 No_date   28:12   26.54  n/a     .000
            overflow <=    1.0 03:Co-P-OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.9246E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00383-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:Co-P-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:Co-P           164.58    4.479 No_date   28:12   26.54  n/a     .000
                       +   1.0 02:N_TO         54837.69   48.869 No_date   38:25   13.08  n/a     .000
                       +   1.0 02:MH105-JR        16.59    3.620 No_date   28:06   26.30  n/a     .000
                       +   1.0 02:A8-MJ-JR          .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:A9-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:A10-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:A11-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:A12-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:A13-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                    SUM=   1.0 01:corrig       55018.86   49.076 No_date   38:24   13.13  n/a     .000
R0002:C00384-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:corrig       55018.86   49.076 No_date   38:24   13.13  n/a     .000
       fname :corrig.0002
       remark:Total Flows at Corrigan Pond
#***************************************************************************
#     Corrigan Pond 1
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
#***************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0002:C00385-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:corrig       55018.86   49.076 No_date   38:24   13.13  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N_MI         55018.86   49.073 No_date   38:28   13.13  n/a     .000
       [L/S/n=  580./ .445/.045]
       {Vmax= 1.454:Dmax= 1.223}
#***************************************************************************
#     Catchment MILLS
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#***************************************************************************
R0002:C00386-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:MILLS          175.99    7.048 No_date   28:08   22.75 .500     .000
       [XIMP=.38:TIMP=.38]
       [LOSS= 2 :CN= 74.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#***************************************************************************
#     Chapman Mills SWM Pond
#     - Rating curve obtained from CCL hydraulic modeling
#***************************************************************************
R0002:C00387-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:MILLS          175.99    7.048 No_date   28:08   22.75  n/a     .000
                 out <=    1.0 01:MILL_P         175.99    2.401 No_date   28:46   22.75  n/a     .000
            overflow <=    1.0 03:MIL-OV            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1446E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00388-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_MI         55018.86   49.073 No_date   38:28   13.13  n/a     .000
                       +   1.0 02:MIL-OV            .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:MILL_P         175.99    2.401 No_date   28:46   22.75  n/a     .000
                    SUM=   1.0 01:SN_MI        55194.85   49.303 No_date   38:26   13.16  n/a     .000
R0002:C00389-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_MI        55194.85   49.303 No_date   38:26   13.16  n/a     .000
       fname :SN_MI.0002
       remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0002:C00390-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_MI        55194.85   49.303 No_date   38:26   13.16  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N_DE         55194.85   49.262 No_date   38:53   13.16  n/a     .000
       [L/S/n= 1962./ .223/.045]
       {Vmax= 1.144:Dmax= 1.611}
#***************************************************************************
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#***************************************************************************
R0002:C00391-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:DESIRE          23.78     .936 No_date   28:03   19.26 .423     .000
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#***************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#***************************************************************************
R0002:C00392-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JOCKVA         225.13   10.636 No_date   28:10   26.85 .590     .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0002:C00393-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:EX-LAND-MN      32.50    2.093 No_date   28:02   26.85  n/a     .000
                       +   1.0 02:JOCKVA         225.13   10.636 No_date   28:10   26.85  n/a     .000
                       +   1.0 02:B2-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:B3-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                    SUM=   1.0 01:JOCKVA-TO      257.63   12.234 No_date   28:07   26.85  n/a     .000
R0002:C00394-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:JOCKVA-TO      257.63   12.234 No_date   28:07   26.85  n/a     .000
       fname :JOCKVA-TO.0002
       remark:Total Flows at KB first pond
#***************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#***************************************************************************
R0002:C00395-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO      257.63   12.234 No_date   28:07   26.85  n/a     .000
                 out <=    1.0 01:JOCK_P         257.63    2.560 No_date   29:05   26.85  n/a     .000
```

```
                 overflow <=     1.0 03:JO-OVF           .00      .000 No_date    0:00      .00  n/a      .000
        {MxStoUsed=.3334E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=     0.hrs}
R0002:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                     1.0 02:N_DE       55194.85   49.262 No_date   38:53   13.16  n/a      .000
                        +        1.0 02:DESIRE        23.78     .936 No_date   28:03   19.26  n/a      .000
                        +        1.0 02:JO-OVF          .00     .000 No_date    0:00     .00  n/a      .000
                        +        1.0 02:JOCK_P       257.63    2.560 No_date   29:05   26.85  n/a      .000
                     SUM=        1.0 01:SN_DE      55476.26   49.619 No_date   38:49   13.23  n/a      .000
R0002:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                    1.0 01:SN_DE      55476.26   49.619 No_date   38:49   13.23  n/a      .000
       fname :SN_DE.0002
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0002:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:SN_DE      55476.26   49.619 No_date   38:49   13.23  n/a      .000
      [RDT= 1.00] out<-      1.0 01:N1         55476.26   49.617 No_date   38:54   13.23  n/a      .000
       [L/S/n=  563./ .967/.045]
       {Vmax= 1.490:Dmax=  .801}
#******************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#******************************************************************************
R0002:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:S-2           102.94    1.373 No_date   28:20   13.01 .286      .000
       [CN= 72.0: N= 3.00: Tp=  .40]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0002:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                     1.0 02:N1         55476.26   49.617 No_date   38:54   13.23  n/a      .000
                        +        1.0 02:S-2           102.94    1.373 No_date   28:20   13.01  n/a      .000
                     SUM=        1.0 01:SN_N1      55579.20   49.715 No_date   38:54   13.23  n/a      .000
R0002:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                    1.0 01:SN_N1      55579.20   49.715 No_date   38:54   13.23  n/a      .000
       fname :SN_N1.0002
       remark:Total Flows at Rideau River
#############################################################################
  ** END OF RUN :     4

***************************************************************************************************



 RUN#:COMMAND#
R0005:C00001-----------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2   (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0005 ]
#******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#******************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [MM]
#  Company       : JFSAinc.
#  License #     :  2549237
#******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 %(as per St
# -----------------------------------------------------------------------------
R0005:C00002-----------------------------------------------------------------------------------------
      READ STORM
       Filename = storm001
       Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
R0005:C00003-----------------------------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
R0005:C00004-----------------------------------------------------------------------------------------
      DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   4.67 mm] [N= 3.00]
       Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0005:C00005-----------------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
       {APImax= 90.83: APIavg= 60.09: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:JR_HW       3680.00    9.398 No_date   37:02   16.41 .287      .000
       [CN= 64.0: N= 3.00: Tp= 7.13]
       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_13        971.00    3.405 No_date   32:36   15.29 .268      .000
       [CN= 61.0: N= 3.00: Tp= 3.76]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:JR_GWM      3074.00    4.682 No_date   39:59   13.23 .232      .000
       [CN= 55.0: N= 3.00: Tp=11.33]
       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
       [InterEventTime=  12.00]
R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:JR_ASH      1781.00    8.521 No_date   32:43   20.12 .352      .000
       [CN= 72.0: N= 3.00: Tp= 3.91]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_11        500.00    4.354 No_date   29:22   17.18 .301      .000
       [CN= 66.0: N= 3.00: Tp= 1.24]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:NN_CK       1917.00    6.210 No_date   34:31   17.18 .301      .000
       [CN= 66.0: N= 3.00: Tp= 5.29]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_10       5666.00   16.924 No_date   38:02   20.12 .352      .000
       [CN= 72.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:KG_CK       8376.00   16.342 No_date   39:59   17.18 .301      .000
       [CN= 66.0: N= 3.00: Tp=11.66]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_9        1132.00    6.963 No_date   30:55   19.24 .337      .000
       [CN= 70.0: N= 3.00: Tp= 2.51]
       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:NC_CK       4464.00    8.109 No_date   39:59   15.66 .274      .000
       [CN= 62.0: N= 3.00: Tp=11.32]
       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_8         131.00    1.298 No_date   28:57   16.03 .281      .000
       [CN= 63.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:HB_DR       3854.00    9.385 No_date   38:41   17.18 .301      .000
       [CN= 66.0: N= 3.00: Tp= 8.42]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_7        3197.00    7.027 No_date   36:28   13.89 .243      .000
       [CN= 57.0: N= 3.00: Tp= 6.65]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_6         165.00     .641 No_date   33:06   17.58 .308      .000
       [CN= 67.0: N= 3.00: Tp= 4.18]
       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:VG_DR       1332.00    4.803 No_date   35:19   20.12 .352      .000
       [CN= 72.0: N= 3.00: Tp= 5.95]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_5         224.00    4.100 No_date   28:45   22.97 .402      .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:FL_CK       4945.00   22.837 No_date   33:22   21.04 .368      .000
       [CN= 74.0: N= 3.00: Tp= 4.45]
       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
       [InterEventTime=  12.00]
R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_5A2        20.00     .483 No_date   28:36   25.62 .448      .000
       [CN= 81.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_5A1      1412.00    4.646 No_date   37:58   21.98 .385      .000
       [CN= 75.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
       [InterEventTime=  12.00]
R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_4         585.00    6.688 No_date   29:57   25.62 .448      .000
       [CN= 81.0: N= 3.00: Tp= 1.75]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:LM_CK       1021.00    8.861 No_date   30:48   25.07 .439      .000
       [CN= 80.0: N= 3.00: Tp= 2.46]
       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
       [InterEventTime=  12.00]
R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_2         177.00    3.240 No_date   28:45   22.97 .402      .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SM_DR       1122.00    8.165 No_date   31:48   25.62 .448      .000
       [CN= 81.0: N= 3.00: Tp= 3.25]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:MO_DR       2737.00   17.859 No_date   31:33   22.47 .393      .000
       [CN= 76.0: N= 3.00: Tp= 3.03]
       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                     1.0 02:JR_HW       3680.00    9.398 No_date   37:02   16.41  n/a      .000
                        +        1.0 02:SW_13        971.00    3.405 No_date   32:36   15.29  n/a      .000
                     SUM=        1.0 01:S_N13       4651.00   11.949 No_date   35:33   16.17  n/a      .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:S_N13       4651.00   11.949 No_date   35:33   16.17  n/a      .000
      [RDT= 1.00] out<-      1.0 01:N13A        4651.00    9.514 No_date   39:57   16.17  n/a      .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .478:Dmax= 3.020}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                     1.0 02:N13A        4651.00    9.514 No_date   39:57   16.17  n/a      .000
                        +        1.0 02:JR_GWM      3074.00    4.682 No_date   39:59   13.23  n/a      .000
                     SUM=        1.0 01:SN13A       7725.00   14.196 No_date   39:59   15.00  n/a      .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:SN13A       7725.00   14.196 No_date   39:59   15.00  n/a      .000
                  out <=     1.0 01:RES_GM      7725.00    3.149 No_date   57:25   15.00  n/a      .000
        {MxStoUsed=.6321E+02  m3}
#
R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                    1.0 01:RES_GM      7725.00    3.149 No_date   57:25   15.00  n/a      .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:RES_GM      7725.00    3.149 No_date   57:25   15.00  n/a      .000
      [RDT= 1.00] out<-      1.0 01:N12         7725.00    3.137 No_date   60:12   15.00  n/a      .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .527:Dmax= 1.429}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                     1.0 02:N12         7725.00    3.137 No_date   60:12   15.00  n/a      .000
                        +        1.0 02:JR_ASH      1781.00    8.521 No_date   32:43   20.12  n/a      .000
                     SUM=        1.0 01:S_N12       9506.00   10.498 No_date   32:46   15.96  n/a      .000
R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                    1.0 01:S_N12       9506.00   10.498 No_date   32:46   15.96  n/a      .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:S_N12       9506.00   10.498 No_date   32:46   15.96  n/a      .000
      [RDT= 1.00] out<-      1.0 01:Dum11       9506.00   10.383 No_date   33:07   15.96  n/a      .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .648:Dmax= 2.406}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                     1.0 02:Dum11       9506.00   10.383 No_date   33:07   15.96  n/a      .000
                        +        1.0 02:SW_11        500.00    4.354 No_date   29:22   17.18  n/a      .000
                        +        1.0 02:NN_CK       1917.00    6.210 No_date   34:31   17.18  n/a      .000
                     SUM=        1.0 01:S_N11      11923.00   17.560 No_date   33:09   16.21  n/a      .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:S_N11      11923.00   17.560 No_date   33:09   16.21  n/a      .000
      [RDT= 1.00] out<-      1.0 01:N10        11923.00   12.006 No_date   38:17   16.21  n/a      .000
       [L/S/n=14028./ .157/.040]
       {Vmax=  .461:Dmax= 1.087}
#
# Addition of Subwatershed 10 to Node 10
#
R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                     1.0 02:N10        11923.00   12.006 No_date   38:17   16.21  n/a      .000
                        +        1.0 02:SW_10       5666.00   16.924 No_date   38:02   20.12  n/a      .000
                     SUM=        1.0 01:S_N10      17589.00   28.927 No_date   38:09   17.47  n/a      .000
R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                    1.0 01:S_N10      17589.00   28.927 No_date   38:09   17.47  n/a      .000
       fname :H_SN10
       remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                     1.0 02:S_N10      17589.00   28.927 No_date   38:09   17.47  n/a      .000
                        +        1.0 02:KG_CK       8376.00   16.342 No_date   39:59   17.18  n/a      .000
```

```
                     SUM=     1.0 01:S_N10A     25965.00    44.722 No_date    39:35    17.37  n/a      .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N10A     25965.00    44.722 No_date    39:35    17.37  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N9         25965.00    43.534 No_date    39:59    17.37  n/a      .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .664:Dmax= 1.502}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N9         25965.00    43.534 No_date    39:59    17.37  n/a      .000
                      +   1.0 02:SW_9        1132.00     6.963 No_date    30:55    19.24  n/a      .000
                      +   1.0 02:NC_CK       4464.00     8.109 No_date    39:59    15.66  n/a      .000
                     SUM= 1.0 01:S_N9       31561.00    53.366 No_date    39:59    17.20  n/a      .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N9       31561.00    53.366 No_date    39:59    17.20  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N8         31561.00    49.404 No_date    39:59    17.20  n/a      .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .370:Dmax= 1.520}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N8         31561.00    49.404 No_date    39:59    17.20  n/a      .000
                      +   1.0 02:SW_8         131.00     1.298 No_date    28:57    16.03  n/a      .000
                      +   1.0 02:HB_DR       3854.00     9.385 No_date    38:41    17.18  n/a      .000
                     SUM= 1.0 01:S_N8       35546.00    58.845 No_date    39:59    17.19  n/a      .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N8       35546.00    58.845 No_date    39:59    17.19  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N7         35546.00    48.127 No_date    45:08    17.19  n/a      .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .208:Dmax= 1.855}
#
# Addition of Subwatershed 7 to Node 7
#
R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N7         35546.00    48.127 No_date    45:08    17.19  n/a      .000
                      +   1.0 02:SW_7        3197.00     7.027 No_date    36:28    13.89  n/a      .000
                     SUM= 1.0 01:S_N7       38743.00    51.395 No_date    44:14    16.92  n/a      .000
R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N7       38743.00    51.395 No_date    44:14    16.92  n/a      .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S_N7       38743.00    51.395 No_date    44:14    16.92  n/a      .000
                out <=    1.0 01:RES_RF     38743.00    27.976 No_date    59:12    16.92  n/a      .000
     {MxStoUsed=.1784E+03  m3}
R0005:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:RES_RF     38743.00    27.976 No_date    59:12    16.92  n/a      .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0005:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:RES_RF     38743.00    27.976 No_date    59:12    16.92  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N6         38743.00    27.930 No_date    60:29    16.92  n/a      .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .460:Dmax=  .895}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0005:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N6         38743.00    27.930 No_date    60:29    16.92  n/a      .000
                      +   1.0 02:SW_6         165.00      .641 No_date    33:06    17.58  n/a      .000
                      +   1.0 02:VG_DR       1332.00     4.803 No_date    35:19    20.12  n/a      .000
                     SUM= 1.0 01:S_N6       40240.01    27.944 No_date    60:06    17.03  n/a      .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0005:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N6       40240.01    27.944 No_date    60:06    17.03  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N5         40240.01    27.922 No_date    60:57    17.03  n/a      .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .397:Dmax= 1.002}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0005:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N5         40240.01    27.922 No_date    60:57    17.03  n/a      .000
                      +   1.0 02:SW_5         224.00     4.100 No_date    28:45    22.97  n/a      .000
                      +   1.0 02:FL_CK       4945.00    22.837 No_date    33:22    21.04  n/a      .000
                     SUM= 1.0 01:S_N5       45409.01    43.566 No_date    35:28    17.49  n/a      .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0005:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N5       45409.01    43.566 No_date    35:28    17.49  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N5A        45409.01    43.490 No_date    35:47    17.49  n/a      .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .465:Dmax= 1.060}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0005:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N5A        45409.01    43.490 No_date    35:47    17.49  n/a      .000
                      +   1.0 02:SW_5A2        20.00      .483 No_date    28:36    25.62  n/a      .000
                      +   1.0 02:SW_5A1      1412.00     4.646 No_date    37:58    21.98  n/a      .000
                     SUM= 1.0 01:S_N5A      46841.01    47.976 No_date    35:58    17.63  n/a      .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0005:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N5A      46841.01    47.976 No_date    35:58    17.63  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N4         46841.01    46.217 No_date    37:26    17.63  n/a      .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .756:Dmax= 3.116}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0005:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N4         46841.01    46.217 No_date    37:26    17.63  n/a      .000
                      +   1.0 02:SW_4         585.00     6.688 No_date    29:57    25.62  n/a      .000
                      +   1.0 02:LM_CK       1021.00     8.861 No_date    30:48    25.07  n/a      .000
                     SUM= 1.0 01:S_N4       48447.00    50.308 No_date    36:47    17.89  n/a      .000
R0005:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N4       48447.00    50.308 No_date    36:47    17.89  n/a      .000
      fname :S_N4.0005
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0005:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N4       48447.00    50.308 No_date    36:47    17.89  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N2         48447.00    50.131 No_date    37:08    17.89  n/a      .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .781:Dmax= 3.131}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0005:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N2         48447.00    50.131 No_date    37:08    17.89  n/a      .000
                      +   1.0 02:SW_2         177.00     3.240 No_date    28:45    22.97  n/a      .000
                      +   1.0 02:SM_DR       1122.00     8.165 No_date    31:48    25.62  n/a      .000
                      +   1.0 02:MO_DR       2737.00    17.859 No_date    31:33    22.47  n/a      .000
                     SUM= 1.0 01:S_N2       52483.00    67.222 No_date    33:17    18.31  n/a      .000
R0005:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N2       52483.00    67.222 No_date    33:17    18.31  n/a      .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0005:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N2       52483.00    67.222 No_date    33:17    18.31  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N_416      52483.00    65.664 No_date    34:34    18.31  n/a      .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .658:Dmax= 2.660}
#****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#****************************************************************************
R0005:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_1a        536.42     3.012 No_date    31:18    19.00 .333      .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0005:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-Okeefe     44.93      .602 No_date    29:08    21.69 .380      .000
      [CN= 77.0: N= 3.00: Tp= 1.05]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0005:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_416      52483.00    65.664 No_date    34:34    18.31  n/a      .000
                      +   1.0 02:SW_1a        536.42     3.012 No_date    31:18    19.00  n/a      .000
                      +   1.0 02:S-1-Okeefe    44.93      .602 No_date    29:08    21.69  n/a      .000
                     SUM= 1.0 01:SN_416     53064.36    67.933 No_date    34:06    18.32  n/a      .000
R0005:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_416     53064.36    67.933 No_date    34:06    18.32  n/a      .000
      fname :SN_416.0005
      remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0005:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_416     53064.36    67.933 No_date    34:06    18.32  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N_OK       53064.36    67.890 No_date    34:06    18.32  n/a      .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.355:Dmax= 2.252}
#****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#****************************************************************************
R0005:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-1           63.72      .514 No_date    28:59    13.88 .243      .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
R0005:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:O-1           63.72      .514 No_date    28:59    13.88  n/a      .000
     [RDT= 1.00] out<-    1.0 01:O-1R          63.72      .470 No_date    29:19    13.88  n/a      .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .682:Dmax=  .283}
R0005:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-2           28.61      .183 No_date    29:14    12.96 .227      .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
R0005:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-4           46.94      .222 No_date    29:01     9.87 .173      .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime=  12.00]
R0005:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:O-1R          63.72      .470 No_date    29:19    13.88  n/a      .000
                      +   1.0 02:O-2           28.61      .183 No_date    29:14    12.96  n/a      .000
                      +   1.0 02:O-4           46.94      .222 No_date    29:01     9.87  n/a      .000
                     SUM= 1.0 01:OKF-N        139.27      .867 No_date    29:14    12.34  n/a      .000
R0005:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:OKF-N        139.27      .867 No_date    29:14    12.34  n/a      .000
     [RDT= 1.00] out<-    1.0 01:OKF-NR       139.27      .866 No_date    29:17    12.34  n/a      .000
      [L/S/n=  210./ .810/.043]
      {Vmax=  .853:Dmax=  .550}
R0005:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-6           16.46      .074 No_date    28:46     8.71 .152      .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime=  12.00]
R0005:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:O-3           39.67      .605 No_date    28:25    15.80 .277      .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0005:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:O-5           60.63     1.453 No_date    28:11    17.75 .311      .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0005:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:OKF-NR       139.27      .866 No_date    29:17    12.34  n/a      .000
                      +   1.0 02:O-3           39.67      .605 No_date    28:25    15.80  n/a      .000
                      +   1.0 02:O-5           60.63     1.453 No_date    28:11    17.75  n/a      .000
                      +   1.0 02:O-6           16.46      .074 No_date    28:46     8.71  n/a      .000
                     SUM= 1.0 01:PT1          256.03     2.312 No_date    28:24    13.92  n/a      .000
R0005:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-7            5.28      .041 No_date    28:37    11.36 .199      .000
      [CN= 54.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
      [InterEventTime=  12.00]
R0005:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:PT1          256.03     2.312 No_date    28:24    13.92  n/a      .000
                      +   1.0 02:O-7            5.28      .041 No_date    28:37    11.36  n/a      .000
                     SUM= 1.0 01:FF           261.31     2.351 No_date    28:25    13.87  n/a      .000
R0005:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:FF           261.31     2.351 No_date    28:25    13.87  n/a      .000
     [RDT= 1.00] out<-    1.0 01:DRAIN1       261.31     2.298 No_date    28:31    13.87  n/a      .000
      [L/S/n=  302./1.000/.043]
      {Vmax=  .817:Dmax=  .624}
R0005:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D1             1.17      .044 No_date    28:12    23.49 .411      .000
      [CN= 84.0: N= 3.00: Tp=  .28]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0005:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A1             2.50      .337 No_date    28:01    44.03 .771      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A1             2.50      .337 No_date    28:01    44.03  n/a      .000
                out <=    1.0 01:A1-STR         2.50      .076 No_date    28:28    44.03  n/a      .000
           overflow <=    1.0 03:A1-OVF          .00      .000 No_date     0:00      .00  n/a      .000
     {MxStoUsed=.5227E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-2            .59      .062 No_date    28:00    33.25 .582      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-2            .59      .062 No_date    28:00    33.25  n/a      .000
                out <=    1.0 01:ST2STR          .59      .052 No_date    28:03    33.25  n/a      .000
           overflow <=    1.0 03:ST2OVF          .00      .000 No_date     0:00      .00  n/a      .000
     {MxStoUsed=.1200E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-8           60.55      .658 No_date    29:05    18.08 .317      .000
      [CN= 69.0: N= 3.00: Tp= 1.00]
      [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
      [InterEventTime=  12.00]
R0005:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:O-8           60.55      .658 No_date    29:05    18.08  n/a      .000
     [RDT= 1.00] out<-    1.0 01:O8PIPE        60.55      .654 No_date    29:09    18.08  n/a      .000
      [L/S/n=  335./ .100/.013]
      {Vmax=  .991:Dmax=  .368}
      {HGTH= 1.20:WDTH= 1.80}
R0005:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN1       261.31     2.298 No_date    28:31    13.87  n/a      .000
                      +   1.0 02:D1             1.17      .044 No_date    28:12    23.49  n/a      .000
                      +   1.0 02:A1-STR         2.50      .076 No_date    28:28    44.03  n/a      .000
                      +   1.0 02:A1-OVF          .00      .000 No_date     0:00      .00  n/a      .000
                      +   1.0 02:ST2STR          .59      .052 No_date    28:03    33.25  n/a      .000
                      +   1.0 02:ST2OVF          .00      .000 No_date     0:00      .00  n/a      .000
                      +   1.0 02:O8PIPE        60.55      .654 No_date    29:09    18.08  n/a      .000
                     SUM= 1.0 01:ST2-IN       326.12     2.907 No_date    28:39    14.95  n/a      .000
R0005:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A7             3.51      .460 No_date    28:02    44.03 .771      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A7             3.51      .460 No_date    28:02    44.03  n/a      .000
                out <=    1.0 01:A7-STR         3.51      .108 No_date    28:29    44.03  n/a      .000
           overflow <=    1.0 03:A7-OVF          .00      .000 No_date     0:00      .00  n/a      .000
     {MxStoUsed=.7349E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-3            .71      .073 No_date    28:00    33.25 .582      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-3            .71      .073 No_date    28:00    33.25  n/a      .000
                out <=    1.0 01:ST3STR          .71      .063 No_date    28:03    33.25  n/a      .000
           overflow <=    1.0 03:ST3OVF          .00      .000 No_date     0:00      .00  n/a      .000
     {MxStoUsed=.1203E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:ST2-IN       326.12     2.907 No_date    28:39    14.95  n/a      .000
                      +   1.0 02:A7-STR         3.51      .108 No_date    28:29    44.03  n/a      .000
                      +   1.0 02:A7-OVF          .00      .000 No_date     0:00      .00  n/a      .000
                      +   1.0 02:ST3STR          .71      .063 No_date    28:03    33.25  n/a      .000
                      +   1.0 02:ST3OVF          .00      .000 No_date     0:00      .00  n/a      .000
                     SUM= 1.0 01:PT2ST3       330.34     3.026 No_date    28:38    15.30  n/a      .000
R0005:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:PT2ST3       330.34     3.026 No_date    28:38    15.30  n/a      .000
     [RDT= 1.00] out<-    1.0 01:DRAIN2       330.34     2.842 No_date    29:04    15.30  n/a      .000
      [L/S/n=  592./ .230/.043]
      {Vmax=  .607:Dmax=  .930}
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R0005:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D2              2.28      .035 No_date   29:05   23.49 .411      .000
      [CN= 84.0: N= 3.00: Tp=  .99]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0005:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A17            12.04     1.379 No_date   28:04   44.03 .771      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:A17            12.04     1.379 No_date   28:04   44.03  n/a      .000
                out  <=    1.0 01:A17STR         12.04      .353 No_date   28:36   44.03  n/a      .000
           overflow <=     1.0 03:A17OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.2492E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:ST-4             .35      .038 No_date   28:00   33.25 .582      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:ST-4             .35      .038 No_date   28:00   33.25  n/a      .000
                out  <=    1.0 01:ST4STR           .35      .031 No_date   28:03   33.25  n/a      .000
           overflow <=     1.0 03:ST4OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.1040E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A18             5.30      .671 No_date   28:02   44.03 .771      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:A18             5.30      .671 No_date   28:02   44.03  n/a      .000
                out  <=    1.0 01:A18STR          5.30      .160 No_date   28:31   44.03  n/a      .000
           overflow <=     1.0 03:A18OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.1108E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:DRAIN2        330.34     2.842 No_date   29:04   15.30  n/a      .000
                     +     1.0 02:D2              2.28      .035 No_date   29:05   23.49  n/a      .000
                     +     1.0 02:A17STR         12.04      .353 No_date   28:36   44.03  n/a      .000
                     +     1.0 02:A17OVF           .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 02:ST4STR           .35      .031 No_date   28:03   33.25  n/a      .000
                     +     1.0 02:ST4OVF           .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 02:A18STR          5.30      .160 No_date   28:31   44.03  n/a      .000
                     +     1.0 02:A18OVF           .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 01:PT3ST4        350.31     3.317 No_date   28:57   16.79  n/a      .000
R0005:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:PT3ST4        350.31     3.317 No_date   28:57   16.79  n/a      .000
     [RDT= 1.00] out<-     1.0 01:DRAIN3        350.31     3.191 No_date   29:19   16.79  n/a      .000
      [L/S/n=  525./ .230/.043]
      {Vmax=  .635:Dmax=  .979}
R0005:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D3              2.51      .055 No_date   28:45   25.92 .454      .000
      [CN= 86.0: N= 3.00: Tp=  .73]
      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
      [InterEventTime=  12.00]
R0005:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:C1              3.41      .450 No_date   28:01   44.03 .771      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:C1              3.41      .450 No_date   28:01   44.03  n/a      .000
                out  <=    1.0 01:C1-STR          3.41      .104 No_date   28:29   44.03  n/a      .000
           overflow <=     1.0 03:C1-OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.7123E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:ST-5             .45      .048 No_date   28:00   33.25 .582      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:ST-5             .45      .048 No_date   28:00   33.25  n/a      .000
                out  <=    1.0 01:ST5STR           .45      .040 No_date   28:03   33.25  n/a      .000
           overflow <=     1.0 03:ST5OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.1108E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:DRAIN3        350.31     3.191 No_date   29:19   16.79  n/a      .000
                     +     1.0 02:D3              2.51      .055 No_date   28:45   25.92  n/a      .000
                     +     1.0 02:C1-STR          3.41      .104 No_date   28:29   44.03  n/a      .000
                     +     1.0 02:C1-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 02:ST5STR           .45      .040 No_date   28:03   33.25  n/a      .000
                     +     1.0 02:ST5OVF           .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 01:ST5-E         356.68     3.312 No_date   29:13   17.14  n/a      .000
R0005:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:STRAND          7.59      .640 No_date   28:12   42.86 .750      .000
      [XIMP=.64:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:STRAND          7.59      .640 No_date   28:12   42.86  n/a      .000
                out  <=    1.0 01:S-POND          7.59      .048 No_date   29:55   42.86  n/a      .000
           overflow <=     1.0 03:S-OVF            .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.2288E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:ST5-E         356.68     3.312 No_date   29:13   17.14  n/a      .000
                     +     1.0 02:S-POND          7.59      .048 No_date   29:55   42.86  n/a      .000
                     +     1.0 02:S-OVF            .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 01:SSAOUT        364.27     3.358 No_date   29:13   17.68  n/a      .000
R0005:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SSAOUT        364.27     3.358 No_date   29:13   17.68  n/a      .000
      fname :SSAOUT.0005
      remark:SSAOUT
R0005:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:Area-A         66.75     5.433 No_date   28:11   42.06 .736      .000
      [XIMP=.64:TIMP=.80]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:Area-A         66.75     5.433 No_date   28:11   42.06  n/a      .000
      fname :Area-A.0005
      remark:SMWF-A Inflow
R0005:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:Area-A         66.75     5.433 No_date   28:11   42.06  n/a      .000
                out  <=    1.0 01:SWMF-A         66.75      .298 No_date   30:20   42.06  n/a      .000
           overflow <=     1.0 03:SWMAOV           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.2106E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SWMF-A         66.75      .298 No_date   30:20   42.06  n/a      .000
      fname :SWMF-A.0005
      remark:SMWF-A Outflow
R0005:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:SSAOUT        364.27     3.358 No_date   29:13   17.68  n/a      .000
                     +     1.0 02:SWMF-A         66.75      .298 No_date   30:20   42.06  n/a      .000
                     +     1.0 02:SWMAOV           .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 01:PT4ST5        431.02     3.613 No_date   29:19   21.45  n/a      .000
R0005:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:C6              1.87      .260 No_date   28:01   44.03 .771      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:C6              1.87      .260 No_date   28:01   44.03  n/a      .000
                out  <=    1.0 01:C6-STR          1.87      .058 No_date   28:26   44.03  n/a      .000
           overflow <=     1.0 03:C6-OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.3924E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:C7              1.62      .227 No_date   28:01   44.03 .771      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:C7              1.62      .227 No_date   28:01   44.03  n/a      .000
                out  <=    1.0 01:C7-STR          1.62      .050 No_date   28:26   44.03  n/a      .000
           overflow <=     1.0 03:C7-OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.3391E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:ST-6             .41      .044 No_date   28:00   33.25 .582      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:ST-6             .41      .044 No_date   28:00   33.25  n/a      .000
                out  <=    1.0 01:ST6STR           .41      .036 No_date   28:03   33.25  n/a      .000
           overflow <=     1.0 03:ST6OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.1092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:PT4ST5        431.02     3.613 No_date   29:19   21.45  n/a      .000
                     +     1.0 02:C6-STR          1.87      .058 No_date   28:26   44.03  n/a      .000
                     +     1.0 02:C6-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 02:C7-STR          1.62      .050 No_date   28:26   44.03  n/a      .000
                     +     1.0 02:C7-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 02:ST6STR           .41      .036 No_date   28:03   33.25  n/a      .000
                     +     1.0 02:ST6OVF           .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 01:PT5ST6        434.92     3.684 No_date   29:13   21.64  n/a      .000
R0005:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:PT5ST6        434.92     3.684 No_date   29:13   21.64  n/a      .000
     [RDT= 1.00] out<-     1.0 01:DRAIN4        434.92     3.572 No_date   29:35   21.64  n/a      .000
      [L/S/n=  324./ .100/.043]
      {Vmax=  .480:Dmax= 1.218}
R0005:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D4              1.73      .049 No_date   28:35   27.98 .490      .000
      [CN= 88.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
      [InterEventTime=  12.00]
R0005:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:Area-B         24.04     2.784 No_date   28:04   40.98 .717      .000
      [XIMP=.62:TIMP=.77]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:Area-B         24.04     2.784 No_date   28:04   40.98  n/a      .000
                out  <=    1.0 01:SWMF-B         24.04      .278 No_date   28:55   40.98  n/a      .000
           overflow <=     1.0 03:SWMBOVF          .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.6277E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:DRAIN4        434.92     3.572 No_date   29:35   21.64  n/a      .000
                     +     1.0 02:D4              1.73      .049 No_date   28:35   27.98  n/a      .000
                     +     1.0 02:SWMF-B         24.04      .278 No_date   28:55   40.98  n/a      .000
                     +     1.0 02:SWMBOVF          .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 01:D4-EX         460.69     3.861 No_date   29:25   22.68  n/a      .000
R0005:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:D4-EX         460.69     3.861 No_date   29:25   22.68  n/a      .000
     [RDT= 1.00] out<-     1.0 01:DRAIN5        460.69     3.810 No_date   29:44   22.68  n/a      .000
      [L/S/n=  413./ .160/.033]
      {Vmax=  .561:Dmax=  .821}
R0005:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D5              1.90      .044 No_date   28:42   25.92 .454      .000
      [CN= 86.0: N= 3.00: Tp=  .69]
      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
      [InterEventTime=  12.00]
R0005:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-13SDF         9.74      .290 No_date   28:22   24.64 .431      .000
      [CN= 81.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0005:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:O-13SDF         9.74      .290 No_date   28:22   24.64  n/a      .000
                out  <=    1.0 01:SDF             9.74      .032 No_date   32:11   24.64  n/a      .000
           overflow <=     1.0 03:OVFSDF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.1268E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:DRAIN5        460.69     3.810 No_date   29:44   22.68  n/a      .000
                     +     1.0 02:D5              1.90      .044 No_date   28:42   25.92  n/a      .000
                     +     1.0 02:SDF             9.74      .032 No_date   32:11   24.64  n/a      .000
                  SUM=     1.0 01:PT6MC         472.33     3.863 No_date   29:44   22.73  n/a      .000
R0005:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-15           10.67      .385 No_date   28:13   23.43 .410      .000
      [CN= 82.0: N= 3.00: Tp=  .30]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0005:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:PT6MC         472.33     3.863 No_date   29:44   22.73  n/a      .000
                     +     1.0 02:O-15           10.67      .385 No_date   28:13   23.43  n/a      .000
                  SUM=     1.0 01:M-C           483.00     3.921 No_date   29:44   22.75  n/a      .000
R0005:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:M-C           483.00     3.921 No_date   29:44   22.75  n/a      .000
     [RDT= 1.00] out<-     1.0 01:O-14Ch        483.00     3.787 No_date   30:06   22.75  n/a      .000
      [L/S/n=  845./ .100/.033]
      {Vmax=  .748:Dmax= 1.430}
R0005:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-14            5.00      .300 No_date   28:04   23.43 .410      .000
      [CN= 82.0: N= 3.00: Tp=  .13]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0005:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:O-14Ch        483.00     3.787 No_date   30:06   22.75  n/a      .000
                     +     1.0 02:O-14            5.00      .300 No_date   28:04   23.43  n/a      .000
                  SUM=     1.0 01:OKEEFE        488.00     3.807 No_date   30:06   22.75  n/a      .000
#***************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#***************************************************************************
R0005:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-D2         18.67      .239 No_date   29:13   21.69 .380      .000
      [CN= 77.0: N= 3.00: Tp= 1.12]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0005:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-D3          6.79      .079 No_date   29:25   21.69 .380      .000
      [CN= 77.0: N= 3.00: Tp= 1.28]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0005:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_OK        53064.36    67.890 No_date   34:06   18.32  n/a      .000
                     +     1.0 02:OKEEFE        488.00     3.807 No_date   30:06   22.75  n/a      .000
                     +     1.0 02:S-1-D2         18.67      .239 No_date   29:13   21.69  n/a      .000
                     +     1.0 02:S-1-D3          6.79      .079 No_date   29:25   21.69  n/a      .000
                  SUM=     1.0 01:SN_OK       53577.82    69.253 No_date   34:06   18.36  n/a      .000
R0005:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_OK       53577.82    69.253 No_date   34:06   18.36  n/a      .000
      fname :SN_OK.0005
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0005:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:SN_OK       53577.82    69.253 No_date   34:06   18.36  n/a      .000
     [RDT= 1.00] out<-     1.0 01:N_FO        53577.82    69.117 No_date   34:07   18.36  n/a      .000
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.031:Dmax= 2.621}
#***************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#***************************************************************************
R0005:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:FOSTER        325.44    19.055 No_date   28:13   37.71 .660      .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
#***************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#***************************************************************************
R0005:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:FOSTER        325.44    19.055 No_date   28:13   37.71  n/a      .000
                out  <=    1.0 01:P_FOS         325.44     5.174 No_date   29:08   37.71  n/a      .000
           overflow <=     1.0 03:FO-OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.5004E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:P_FOS         325.44     5.174 No_date   29:08   37.71  n/a      .000
                     +     1.0 02:FO-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 01:FOSTER-OUT    325.44     5.174 No_date   29:08   37.71  n/a      .000
#***************************************************************************
R0005:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA     73.29     6.276 No_date   28:06   41.22 .722      .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA     73.29     6.276 No_date   28:06   41.22  n/a      .000
                out  <=    1.0 01:MS_P10         73.29     1.101 No_date   28:56   41.22  n/a      .000
           overflow <=     1.0 03:P10-OVF          .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.1093E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-FO-D2       4.94      .064 No_date   29:11   21.69 .380      .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0005:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:FOSTER-OUT    325.44     5.174 No_date   29:08   37.71  n/a      .000
                     +     1.0 02:S-1-FO-D2       4.94      .064 No_date   29:11   21.69  n/a      .000
                  SUM=     1.0 01:980           330.38     5.238 No_date   29:08   37.47  n/a      .000
R0005:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:980           330.38     5.238 No_date   29:08   37.47  n/a      .000
      fname :980.0005
      remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0005:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:980           330.38     5.238 No_date   29:08   37.47  n/a      .000
     [RDT= 1.00] out<-     1.0 01:980-out       330.38     5.063 No_date   29:14   37.47  n/a      .000
      [L/S/n=  460./ .043/.035]
      {Vmax=  .603:Dmax= 1.271}
R0005:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-FO-D1       5.11      .066 No_date   29:11   21.69 .380      .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0005:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:980-out       330.38     5.063 No_date   29:14   37.47  n/a      .000
                     +     1.0 02:S-1-FO-D1       5.11      .066 No_date   29:11   21.69  n/a      .000
                  SUM=     1.0 01:520           335.49     5.129 No_date   29:14   37.23  n/a      .000
R0005:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:520           335.49     5.129 No_date   29:14   37.23  n/a      .000
      fname :520.0005
```

```
        remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0005:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:520            335.49     5.129 No_date   29:14   37.23  n/a     .000
     [RDT= 1.00] out<-    1.0 01:520-out        335.49     5.080 No_date   29:32   37.23  n/a     .000
      [L/S/n=  860./ .587/.035]
      {Vmax= 1.320:Dmax=  .607}
R0005:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-FO-F-D      14.96      .206 No_date   29:05   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp= 1.01]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0005:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D8           5.27      .654 No_date   28:00   42.00 .735     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-A           75.88     1.479 No_date   28:37   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0005:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:W_CLAR_UND      35.65      .462 No_date   29:11   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0005:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_FO         53577.82    69.117 No_date   34:07   18.36  n/a     .000
                    +     1.0 02:520-out        335.49     5.080 No_date   29:32   37.23  n/a     .000
                    +     1.0 02:MS_P10          73.29     1.101 No_date   28:56   41.22  n/a     .000
                    +     1.0 02:P10-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:W_CLAR_UND      35.65      .462 No_date   29:11   21.69  n/a     .000
                    +     1.0 02:S-1-FO-F-D      14.96      .206 No_date   29:05   21.69  n/a     .000
                    +     1.0 02:S-1-D8           5.27      .654 No_date   28:00   42.00  n/a     .000
                    +     1.0 02:S-1-A           75.88     1.479 No_date   28:37   21.69  n/a     .000
                 SUM=     1.0 01:SN_FO        54118.36    71.824 No_date   33:59   18.52  n/a     .000
R0005:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_FO        54118.36    71.824 No_date   33:59   18.52  n/a     .000
      fname :SN_FO.0005
      remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0005:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_FO        54118.36    71.824 No_date   33:59   18.52  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:N_CE         54118.36    71.792 No_date   34:07   18.52  n/a     .000
      [L/S/n=  159./ .082/.035]
      {Vmax= 1.246:Dmax= 3.101}
#*****************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#*****************************************************************************
R0005:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-B           55.36     1.342 No_date   28:24   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp=  .45]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0005:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D1          21.67      .287 No_date   29:09   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp= 1.07]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0005:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D4           3.28      .042 No_date   29:11   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0005:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D5          12.84      .166 No_date   29:11   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0005:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D6           1.75      .023 No_date   29:11   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0005:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D7           2.03      .026 No_date   29:11   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#*****************************************************************************
R0005:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ        1.77      .192 No_date   28:00   37.36 .654     .000
      [XIMP=.46:TIMP=.59]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0005:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:W_CLAR_MJ        1.77      .192 No_date   28:00   37.36  n/a     .000
                out <=    1.0 01:W_CLAR_MIn       1.77      .192 No_date   28:00   37.36  n/a     .000
           overflow <=    1.0 03:W_CLAR_MJj        .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.9116E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL     119.40    10.597 No_date   28:05   41.22 .722     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:W_CLAR_ALL     119.40    10.597 No_date   28:05   41.22  n/a     .000
                    +     1.0 02:W_CLAR_MJj        .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:W_CLAR         119.40    10.597 No_date   28:05   41.22  n/a     .000
R0005:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:W_CLAR         119.40    10.597 No_date   28:05   41.22  n/a     .000
      fname :W_CLAR.0005
      remark:Total Flows to West Clarke
#*****************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*****************************************************************************
R0005:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:W_CLAR         119.40    10.597 No_date   28:05   41.22  n/a     .000
                out <=    1.0 01:MS_P2          119.40     1.795 No_date   28:54   41.22  n/a     .000
           overflow <=    1.0 03:P2-OVF            .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2665E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#*****************************************************************************
R0005:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_CE         54118.36    71.792 No_date   34:07   18.52  n/a     .000
                    +     1.0 02:S-1-D4           3.28      .042 No_date   29:11   21.69  n/a     .000
                    +     1.0 02:S-1-D5          12.84      .166 No_date   29:11   21.69  n/a     .000
                    +     1.0 02:MS_P2          119.40     1.795 No_date   28:54   41.22  n/a     .000
                    +     1.0 02:P2-OVF            .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:SN_CE        54253.88    72.522 No_date   34:07   18.57  n/a     .000
R0005:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_CE        54253.88    72.522 No_date   34:07   18.57  n/a     .000
      fname :SN_CE.0005
      remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
# JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
R0005:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_CE        54253.88    72.522 No_date   34:07   18.57  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:5737         54253.88    70.229 No_date   36:14   18.57  n/a     .000
      [L/S/n=  270./ .018/.035]
      {Vmax=  .686:Dmax= 4.074}
R0005:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:5737         54253.88    70.229 No_date   36:14   18.57  n/a     .000
                    +     1.0 02:S-1-D1          21.67      .287 No_date   29:09   21.69  n/a     .000
                    +     1.0 02:S-1-D6           1.75      .023 No_date   29:11   21.69  n/a     .000
                    +     1.0 02:S-1-D7           2.03      .026 No_date   29:11   21.69  n/a     .000
                 SUM=     1.0 01:5002         54279.33    70.280 No_date   36:14   18.57  n/a     .000
R0005:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:5002         54279.33    70.280 No_date   36:14   18.57  n/a     .000
      fname :5002.0005
      remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0005:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:5002         54279.33    70.280 No_date   36:14   18.57  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_WCa        54279.33    70.286 No_date   36:12   18.57  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.070:Dmax= 2.329}
R0005:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:N_WCa        54279.33    70.286 No_date   36:12   18.57  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_WCb        54279.33    70.290 No_date   36:11   18.57  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.070:Dmax= 2.329}
R0005:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:N_WCb        54279.33    70.290 No_date   36:11   18.57  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_WC         54279.33    70.433 No_date   37:41   18.57  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.070:Dmax= 2.329}
#*****************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0005:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:N_WC         54279.33    70.433 No_date   37:41   18.57  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_KB         54279.33    70.411 No_date   37:42   18.57  n/a     .000
      [L/S/n= 1020./ .050/.035]
      {Vmax=  .948:Dmax= 2.868}
#*****************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#*****************************************************************************
#*****************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#*****************************************************************************
R0005:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-01A          40.82     2.624 No_date   28:14   20.08 .351     .000
      [XIMP=.10:TIMP=.40]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-01A          40.82     2.624 No_date   28:14   20.08  n/a     .000
     Major System  /      1.0 02:KB-01A-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-01A-MN       40.82     2.624 No_date   28:14   20.08  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-01A-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-01A-MN       40.82     2.624 No_date   28:14   20.08  n/a     .000
                 SUM=     1.0 01:KB-01A-S        40.82     2.624 No_date   28:14   20.08  n/a     .000
R0005:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-01B          31.10     1.779 No_date   28:08   22.42 .393     .000
      [XIMP=.19:TIMP=.38]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-01B          31.10     1.779 No_date   28:08   22.42  n/a     .000
     Major System  /      1.0 02:KB-01B-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-01B-MN       31.10     1.585 No_date   28:03   22.52  n/a     .000
      {MjSysSto=.1530E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-01B-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-01B-MN       31.10     1.585 No_date   28:03   22.52  n/a     .000
                 SUM=     1.0 01:KB-01B-S        31.10     1.585 No_date   28:03   22.52  n/a     .000
R0005:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-01C          13.78     1.235 No_date   28:05   23.43 .410     .000
      [XIMP=.20:TIMP=.41]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-01C          13.78     1.235 No_date   28:05   23.43  n/a     .000
     Major System  /      1.0 02:KB-01C-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-01C-MN       13.78     1.235 No_date   28:05   23.43  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-01C-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-01C-MN       13.78     1.235 No_date   28:05   23.43  n/a     .000
                 SUM=     1.0 01:KB-01C-S        13.78     1.235 No_date   28:05   23.43  n/a     .000
R0005:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-03           84.78     6.180 No_date   28:10   22.99 .402     .000
      [XIMP=.20:TIMP=.39]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-03           84.78     6.180 No_date   28:10   22.99  n/a     .000
     Major System  /      1.0 02:KB-03-MJ          .00      .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-03-MN        84.78     5.270 No_date   28:03   23.12  n/a     .000
      {MjSysSto=.5145E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-03-MJ          .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-03-MN        84.78     5.270 No_date   28:03   23.12  n/a     .000
                 SUM=     1.0 01:KB-03-S         84.78     5.270 No_date   28:03   23.12  n/a     .000
R0005:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-04            6.95     1.043 No_date   28:01   49.53 .867     .000
      [XIMP=.85:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-04            6.95     1.043 No_date   28:01   49.53  n/a     .000
     Major System  /      1.0 02:KB-04-MJ          .00      .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-04-MN         6.95      .503 No_date   27:48   49.78  n/a     .000
      {MjSysSto=.3742E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-04-MJ          .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-04-MN         6.95      .503 No_date   27:48   49.78  n/a     .000
                 SUM=     1.0 01:KB-04-S          6.95      .503 No_date   27:48   49.78  n/a     .000
R0005:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-05            5.19      .855 No_date   28:00   52.49 .919     .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-06           12.93     2.190 No_date   28:00   50.55 .885     .000
      [XIMP=.87:TIMP=.87]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-06           12.93     2.190 No_date   28:00   50.55  n/a     .000
     Major System  /      1.0 02:KB-06-MJ          .00      .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-06-MN        12.93     2.190 No_date   28:00   50.55  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-06-MJ          .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-06-MN        12.93     2.190 No_date   28:00   50.55  n/a     .000
                 SUM=     1.0 01:KB-06-S         12.93     2.190 No_date   28:00   50.55  n/a     .000
R0005:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-11            4.03      .584 No_date   28:00   41.88 .733     .000
      [XIMP=.68:TIMP=.68]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-11            4.03      .584 No_date   28:00   41.88  n/a     .000
     Major System  /      1.0 02:KB-11-MJ          .00      .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:KB-11-MN         4.03      .577 No_date   28:00   41.89  n/a     .000
      {MjSysSto=.4277E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-11-MJ          .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:KB-11-MN         4.03      .577 No_date   28:00   41.89  n/a     .000
                 SUM=     1.0 01:KB-11-S          4.03      .577 No_date   28:00   41.89  n/a     .000
R0005:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S1               4.99      .892 No_date   28:00   52.49 .919     .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-15            2.15      .321 No_date   28:00   47.49 .831     .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-01A-S        40.82     2.624 No_date   28:14   20.08  n/a     .000
                    +     1.0 02:KB-01B-S        31.10     1.585 No_date   28:03   22.52  n/a     .000
                    +     1.0 02:KB-01C-S        13.78     1.235 No_date   28:05   23.43  n/a     .000
                    +     1.0 02:KB-03-S         84.78     5.270 No_date   28:03   23.12  n/a     .000
                    +     1.0 02:KB-04-S          6.95      .503 No_date   27:48   49.78  n/a     .000
                    +     1.0 02:KB-05            5.19      .855 No_date   28:00   52.49  n/a     .000
                    +     1.0 02:KB-06-S         12.93     2.190 No_date   28:00   50.55  n/a     .000
                    +     1.0 02:KB-11-S          4.03      .577 No_date   28:00   41.89  n/a     .000
                    +     1.0 02:KB-15            2.15      .321 No_date   28:00   47.49  n/a     .000
                    +     1.0 02:S1               4.99      .892 No_date   28:00   52.49  n/a     .000
                 SUM=     1.0 01:KB-P1          206.72    14.564 No_date   28:02   27.13  n/a     .000
R0005:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:KB-P1          206.72    14.564 No_date   28:02   27.13  n/a     .000
                out <=    1.0 01:KB-P1R         206.72    11.746 No_date   28:15   27.13  n/a     .000
           overflow <=    1.0 03:KB-P1ovf          .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5868E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-P1R         206.72    11.746 No_date   28:15   27.13  n/a     .000
                    +     1.0 02:KB-P1ovf          .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:KB-Pond1       206.72    11.746 No_date   28:15   27.13  n/a     .000
R0005:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:KB-Pond1       206.72    11.746 No_date   28:15   27.13  n/a     .000
      fname :KB-Pond1.0005
      remark:Total Flows at KB first pond
R0005:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-07           10.86     1.770 No_date   28:00   50.11 .877     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
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      COMPUTE DUALHYD        1.0 01:KB-07           10.86    1.770 No_date   28:00   50.11  n/a      .000
       Major System   /      1.0 02:KB-07-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-07-MN        10.86    1.770 No_date   28:00   50.11  n/a      .000
         {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-07-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:KB-07-MN        10.86    1.770 No_date   28:00   50.11  n/a      .000
                     SUM=    1.0 01:KB-07-S         10.86    1.770 No_date   28:00   50.11  n/a      .000
R0005:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-08            6.61     .900 No_date   28:00   40.32 .706    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-08            6.61     .900 No_date   28:00   40.32  n/a      .000
       Major System   /      1.0 02:KB-08-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-08-MN         6.61     .900 No_date   28:00   40.32  n/a      .000
         {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-08-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:KB-08-MN         6.61     .900 No_date   28:00   40.32  n/a      .000
                     SUM=    1.0 01:KB-08-S          6.61     .900 No_date   28:00   40.32  n/a      .000
R0005:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-09            2.60     .448 No_date   28:00   49.44 .865    .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-10_1          2.37     .409 No_date   28:00   49.44 .865    .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-10_2          1.14     .199 No_date   28:00   49.44 .865    .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-12            4.86     .777 No_date   28:00   46.75 .818    .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-12            4.86     .777 No_date   28:00   46.75  n/a      .000
       Major System   /      1.0 02:KB-12-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-12-MN         4.86     .777 No_date   28:00   46.75  n/a      .000
         {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-12-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:KB-12-MN         4.86     .777 No_date   28:00   46.75  n/a      .000
                     SUM=    1.0 01:KB-12-S          4.86     .777 No_date   28:00   46.75  n/a      .000
R0005:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-13           10.19    1.364 No_date   28:00   40.32 .706    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-13           10.19    1.364 No_date   28:00   40.32  n/a      .000
       Major System   /      1.0 02:KB-13-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-13-MN        10.19    1.364 No_date   28:00   40.32  n/a      .000
         {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-13-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:KB-13-MN        10.19    1.364 No_date   28:00   40.32  n/a      .000
                     SUM=    1.0 01:KB-13-S         10.19    1.364 No_date   28:00   40.32  n/a      .000
R0005:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-14            5.47     .756 No_date   28:00   40.32 .706    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-14            5.47     .756 No_date   28:00   40.32  n/a      .000
       Major System   /      1.0 02:KB-14-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-14-MN         5.47     .756 No_date   28:00   40.32  n/a      .000
         {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-14-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:KB-14-MN         5.47     .756 No_date   28:00   40.32  n/a      .000
                     SUM=    1.0 01:KB-14-S          5.47     .756 No_date   28:00   40.32  n/a      .000
R0005:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-16_2          3.42     .462 No_date   28:01   43.88 .768    .000
        [XIMP=.71:TIMP=.71]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-Pond1       206.72   11.746 No_date   28:15   27.13  n/a      .000
                        +    1.0 02:KB-07-S         10.86    1.770 No_date   28:00   50.11  n/a      .000
                        +    1.0 02:KB-08-S          6.61     .900 No_date   28:00   40.32  n/a      .000
                        +    1.0 02:KB-09            2.60     .448 No_date   28:00   49.44  n/a      .000
                        +    1.0 02:KB-10_1          2.37     .409 No_date   28:00   49.43  n/a      .000
                        +    1.0 02:KB-10_2          1.14     .199 No_date   28:00   49.44  n/a      .000
                        +    1.0 02:KB-12-S          4.86     .777 No_date   28:00   46.75  n/a      .000
                        +    1.0 02:KB-13-S         10.19    1.364 No_date   28:00   40.32  n/a      .000
                        +    1.0 02:KB-14-S          5.47     .756 No_date   28:00   40.32  n/a      .000
                        +    1.0 02:KB-16_2          3.42     .462 No_date   28:01   43.88  n/a      .000
                     SUM=    1.0 01:KB-P2          254.24   16.750 No_date   28:01   30.40  n/a      .000
R0005:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:KB-P2          254.24   16.750 No_date   28:01   30.40  n/a      .000
                   out <=    1.0 01:KB-P2R         254.24   13.525 No_date   28:14   30.40  n/a      .000
              overflow <=    1.0 03:KB-P2ovf          .00     .000 No_date    0:00     .00  n/a      .000
        {MkStoUsed=.6552E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-P2R         254.24   13.525 No_date   28:14   30.40  n/a      .000
                        +    1.0 02:KB-P2ovf          .00     .000 No_date    0:00     .00  n/a      .000
                     SUM=    1.0 01:KB-Pond2       254.24   13.525 No_date   28:14   30.40  n/a      .000
R0005:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:KB-Pond2       254.24   13.525 No_date   28:14   30.40  n/a      .000
        fname :KB-Pond2.0005
        remark:Total Flows at KB second pond
R0005:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-16_1          2.80     .398 No_date   28:01   45.69 .800    .000
        [XIMP=.75:TIMP=.75]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-Pond2       254.24   13.525 No_date   28:14   30.40  n/a      .000
                        +    1.0 02:KB-16_1          2.80     .398 No_date   28:01   45.69  n/a      .000
                     SUM=    1.0 01:KB-P3          257.04   13.655 No_date   28:13   30.57  n/a      .000
R0005:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:KB-P3          257.04   13.655 No_date   28:13   30.57  n/a      .000
                   out <=    1.0 01:KB-P3R          14.18     .051 No_date   17:43   30.57  n/a      .000
              overflow <=    1.0 03:KB-P3ovf       242.86   13.603 No_date   28:13   30.57  n/a      .000
        {MkStoUsed=.1998E-02  m3, TotOvfVol=.7424E+01  m3, N-Ovf=     2, TotDurOvf=    23.hrs}
R0005:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-P3R          14.18     .051 No_date   17:43   30.57  n/a      .000
                        +    1.0 02:KB-P3ovf       242.86   13.603 No_date   28:13   30.57  n/a      .000
                     SUM=    1.0 01:KB-Pond3       257.04   13.654 No_date   28:13   30.57  n/a      .000
R0005:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:KB-Pond3       257.04   13.654 No_date   28:13   30.57  n/a      .000
        fname :KB-Pond3.0005
        remark:Total Flows at KB third pond
#*****************************************************************************
#     EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#     - TO FRASER-CLARKE DRAIN
#*****************************************************************************
R0005:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-01            8.03     .865 No_date   28:01   32.39 .567    .000
        [XIMP=.47:TIMP=.47]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-01            8.03     .865 No_date   28:01   32.39  n/a      .000
       Major System   /      1.0 02:FC-01-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:FC-01-MN         8.03     .756 No_date   27:58   32.40  n/a      .000
         {MJSysSto=.2912E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-01-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:FC-01-MN         8.03     .756 No_date   27:58   32.40  n/a      .000
                     SUM=    1.0 01:FC-01-S          8.03     .756 No_date   27:58   32.40  n/a      .000
R0005:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-02           16.05    2.547 No_date   28:01   52.49 .919    .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-02           16.05    2.547 No_date   28:01   52.49  n/a      .000
       Major System   /      1.0 02:FC-02-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:FC-02-MN        16.05    1.159 No_date   27:47   52.68  n/a      .000
         {MJSysSto=.1011E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-02-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:FC-02-MN        16.05    1.159 No_date   27:47   52.68  n/a      .000
                     SUM=    1.0 01:FC-02-S         16.05    1.159 No_date   27:47   52.68  n/a      .000
R0005:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-03            7.37     .956 No_date   28:01   39.82 .697    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-03            7.37     .956 No_date   28:01   39.82  n/a      .000
       Major System   /      1.0 02:FC-03-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:FC-03-MN         7.37     .358 No_date   27:45   39.85  n/a      .000
         {MJSysSto=.4806E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-03-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:FC-03-MN         7.37     .358 No_date   27:45   39.85  n/a      .000
                     SUM=    1.0 01:FC-03-S          7.37     .358 No_date   27:45   39.85  n/a      .000
R0005:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-04           12.87    1.600 No_date   28:01   39.82 .697    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-04           12.87    1.600 No_date   28:01   39.82  n/a      .000
       Major System   /      1.0 02:FC-04-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:FC-04-MN        12.87     .741 No_date   27:48   39.85  n/a      .000
         {MJSysSto=.6277E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-04-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:FC-04-MN        12.87     .741 No_date   27:48   39.85  n/a      .000
                     SUM=    1.0 01:FC-04-S         12.87     .741 No_date   27:48   39.85  n/a      .000
#*****************************************************************************
#     PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#     - TO JOCK RIVER
#*****************************************************************************
R0005:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:JR-01            8.24    1.064 No_date   28:01   39.82 .697    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:JR-01            8.24    1.064 No_date   28:01   39.82  n/a      .000
       Major System   /      1.0 02:JR-01-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:JR-01-MN         8.24     .563 No_date   28:29   40.05  n/a      .000
         {MJSysSto=.3052E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:JR-01-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:JR-01-MN         8.24     .563 No_date   27:50   40.05  n/a      .000
                     SUM=    1.0 01:JR-01-S          8.24     .563 No_date   27:50   40.05  n/a      .000
R0005:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:JR-02            1.59     .224 No_date   28:00   39.82 .697    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:JR-02            1.59     .224 No_date   28:00   39.82  n/a      .000
       Major System   /      1.0 02:JR-02-MJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:JR-02-MN         1.59     .153 No_date   27:53   40.12  n/a      .000
         {MJSysSto=.2948E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:JR-02-MJ          .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:JR-02-MN         1.59     .153 No_date   27:53   40.12  n/a      .000
                     SUM=    1.0 01:JR-02-S          1.59     .153 No_date   27:53   40.12  n/a      .000
#*****************************************************************************
#     Catchment FRASER
#     - To Fraser-Clarke drain (north of the Jock)
#     - Developed land with assumed 43% imp.
#     - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#     - 2020-12-17 All Fraser is undeveloped (Nashyd)
#*****************************************************************************
R0005:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:FRASER-DRN      13.65     .345 No_date   28:22   21.69 .380    .000
        [CN= 77.0: N= 3.00: Tp=  .43]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0005:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:FRASER-D        21.61     .397 No_date   28:40   21.69 .380    .000
        [CN= 77.0: N= 3.00: Tp=  .67]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0005:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-Pond3       257.04   13.654 No_date   28:13   30.57  n/a      .000
                        +    1.0 02:S-1-B           55.36    1.342 No_date   28:24   21.69  n/a      .000
                        +    1.0 02:FRASER-DRN      13.65     .345 No_date   28:22   21.69  n/a      .000
                        +    1.0 02:FRASER-D        21.61     .397 No_date   28:40   21.69  n/a      .000
                        +    1.0 02:N_KB         54279.33   70.411 No_date   37:42   18.57  n/a      .000
                        +    1.0 02:FC-01-S          8.03     .756 No_date   27:58   32.40  n/a      .000
                        +    1.0 02:FC-02-S         16.05    1.159 No_date   27:47   52.68  n/a      .000
                        +    1.0 02:FC-03-S          7.37     .358 No_date   27:45   39.85  n/a      .000
                     SUM=    1.0 01:4241         54658.44   70.776 No_date   37:42   18.65  n/a      .000
R0005:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:4241         54658.44   70.776 No_date   37:42   18.65  n/a      .000
        fname :4241.0005
        remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0005:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:4241         54658.44   70.776 No_date   37:42   18.65  n/a      .000
       [RDT= 1.00] out<-     1.0 01:4241-out     54658.44   70.705 No_date   36:09   18.65  n/a      .000
        [L/S/n=  294./ .109/.035]
        {Vmax= 1.100:Dmax= 1.839}
R0005:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:4241-out     54658.44   70.705 No_date   36:09   18.65  n/a      .000
                        +    1.0 02:FC-04-S         12.87     .741 No_date   27:48   39.85  n/a      .000
                        +    1.0 02:JR-01-S          8.24     .563 No_date   27:50   40.05  n/a      .000
                        +    1.0 02:JR-02-S          1.59     .153 No_date   27:53   40.12  n/a      .000
                     SUM=    1.0 01:SN_KB        54681.13   70.738 No_date   36:08   18.66  n/a      .000
R0005:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:SN_KB        54681.13   70.738 No_date   36:08   18.66  n/a      .000
        fname :SN_KB.0005
        remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0005:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:SN_KB        54681.13   70.738 No_date   36:08   18.66  n/a      .000
       [RDT= 1.00] out<-     1.0 01:N_TO         54681.13   70.709 No_date   36:13   18.66  n/a      .000
        [L/S/n=  608./ .247/.035]
        {Vmax= 1.453:Dmax= 1.382}
#*****************************************************************************
#     Catchment Greenbank
#     - To Greenbank Drain (south of the Jock)
#     - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#     - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#*****************************************************************************
R0005:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:Greenbank       36.60    3.925 No_date   28:02   42.59 .745    .000
        [XIMP=.64:TIMP=.68]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:Greenbank       36.60    3.925 No_date   28:02   42.59  n/a      .000
                   out <=    1.0 01:GreenB_MN       36.60     .811 No_date   28:35   42.58  n/a      .000
              overflow <=    1.0 03:GreenB_MJ         .00     .000 No_date    0:00     .00  n/a      .000
        {MkStoUsed=.7695E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N_TO         54681.13   70.709 No_date   36:13   18.66  n/a      .000
                        +    1.0 02:GreenB_MJ         .00     .000 No_date    0:00     .00  n/a      .000
                        +    1.0 02:GreenB_MN       36.60     .811 No_date   28:35   42.58  n/a      .000
                     SUM=    1.0 01:GreenB       54717.73   70.826 No_date   36:13   18.67  n/a      .000
R0005:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:GreenB       54717.73   70.826 No_date   36:13   18.67  n/a      .000
        fname :GreenB.0005
        remark:Total Flows at Greenbank Drain
#*****************************************************************************
#     Catchment TODD
#     - To Todd Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#     - 2020-11-30 increase imp. based on P598(04)-11
#     - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#     - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#*****************************************************************************
#     - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0005:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:TODD_MN2         2.10     .239 No_date   28:00   38.41 .672    .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:TODD_MN3          .12     .014 No_date   28:00   38.39 .672    .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:TODD_MJ         30.23    2.959 No_date   28:02   39.47 .691    .000
        [XIMP=.52:TIMP=.64]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:TODD_ALL       112.91    9.069 No_date   28:05   38.19 .669    .000
```

```
       [XIMP=.52:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_P          3.06     .385 No_date   28:00   41.58 .728     .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0005:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD_MJ        30.23    2.959 No_date   28:02   39.47  n/a     .000
 *               out <=    1.0 01:TODD_MJn       30.23    2.959 No_date   28:02   39.47  n/a     .000
            overflow <=    1.0 03:TODD_MJj         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.8948E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
# 5-Year + 12% Capture
R0005:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD_MN2        2.10     .239 No_date   28:00   38.41  n/a     .000
                 out <=    1.0 01:TODD_MN2n       2.10     .238 No_date   28:00   38.41  n/a     .000
            overflow <=    1.0 03:TODD_MN2j        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.8965E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD_MN3         .12     .014 No_date   28:00   38.39  n/a     .000
                 out <=    1.0 01:TODD_MN3n        .12     .014 No_date   28:00   38.39  n/a     .000
            overflow <=    1.0 03:TODD_MN3j        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.8651E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A2             25.50    1.991 No_date   28:03   34.66 .607     .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A2             25.50    1.991 No_date   28:03   34.66  n/a     .000
      Major System   /     1.0 02:A2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A2-MN          25.50    1.818 No_date   28:00   34.70  n/a     .000
      {MjSysSto=.5163E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:TODD_MN2n       2.10     .238 No_date   28:00   38.41  n/a     .000
                     +     1.0 02:TODD_MN3n        .12     .014 No_date   28:00   38.39  n/a     .000
                     +     1.0 02:TODD_MJj         .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:TODD_P          3.06     .385 No_date   28:00   41.58  n/a     .000
                     +     1.0 02:TODD_ALL      112.91    9.069 No_date   28:05   38.19  n/a     .000
                     +     1.0 02:W_CLAR_MJn      1.77     .192 No_date   28:00   37.36  n/a     .000
                  SUM=     1.0 01:TODD          119.95    9.538 No_date   28:04   38.27  n/a     .000
R0005:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:TODD          119.95    9.538 No_date   28:04   38.27  n/a     .000
       fname :TODD.0005
       remark:Total Flows at Todd Drain
#**************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#**************************************************************************
R0005:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD          119.95    9.538 No_date   28:04   38.27  n/a     .000
                 out <=    1.0 01:MS_P3         119.95    3.765 No_date   28:29   38.27  n/a     .000
            overflow <=    1.0 03:P3-OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2351E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:GreenB      54717.73   70.826 No_date   36:13   18.67  n/a     .000
                     +     1.0 02:MS_P3         119.95    3.765 No_date   28:29   38.27  n/a     .000
                     +     1.0 02:P3-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:TODD_MN2j        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:SN_TO       54837.69   71.097 No_date   36:12   18.71  n/a     .000
R0005:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_TO       54837.69   71.097 No_date   36:12   18.71  n/a     .000
       fname :SN_TO.0005
       remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0005:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_TO       54837.69   71.097 No_date   36:12   18.71  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:N_TO        54837.69   70.986 No_date   36:25   18.71  n/a     .000
       [L/S/n=  280./ .050/.045]
       {Vmax=  .830:Dmax= 2.582}
R0005:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:N_TO        54837.69   70.986 No_date   36:25   18.71  n/a     .000
       fname :N_TO.0005
       remark:Total inflows at Station 2462
#**************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#**************************************************************************
R0005:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:corr1           15.87    1.806 No_date   28:01   41.58 .728     .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:corr1          15.87    1.806 No_date   28:01   41.58  n/a     .000
      Major System   /     1.0 02:corr1-MJ         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:corr1-MN       15.87    1.806 No_date   28:01   41.58  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    1.0 01:corr2           12.47     .161 No_date   29:11   21.69 .380     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0005:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A1-Corrig       15.75    1.357 No_date   28:02   34.66 .607     .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A1-Corrig      15.75    1.357 No_date   28:02   34.66  n/a     .000
      Major System   /     1.0 02:A1-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A1-MN          15.75    1.357 No_date   28:02   34.66  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    1.0 01:B1               2.77     .055 No_date   28:09   13.56 .237     .000
       [CN= 56.0: N= 3.00: Tp=  .23]
       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
       [InterEventTime=  12.00]
R0005:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A4               1.27     .153 No_date   28:00   42.00 .735     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A4              1.27     .153 No_date   28:00   42.00  n/a     .000
      Major System   /     1.0 02:A4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A4-MN           1.27     .153 No_date   28:00   42.00  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A1-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A1-MN          15.75    1.357 No_date   28:02   34.66  n/a     .000
                     +     1.0 02:corr1-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:corr1-MN       15.87    1.806 No_date   28:01   41.58  n/a     .000
                     +     1.0 02:corr2          12.47     .161 No_date   29:11   21.69  n/a     .000
                     +     1.0 02:B1              2.77     .055 No_date   28:09   13.56  n/a     .000
                     +     1.0 02:A4-MN           1.27     .153 No_date   28:00   42.00  n/a     .000
                  SUM=     1.0 01:MH101          48.13    3.389 No_date   28:01   32.56  n/a     .000
R0005:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH101          48.13    3.389 No_date   28:01   32.56  n/a     .000
       fname :MH101.0005
       remark:Total Flows at MH101
R0005:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH101          48.13    3.389 No_date   28:01   32.56  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:101-102        48.13    3.277 No_date   28:03   32.56  n/a     .000
       [L/S/n=  368./ .540/.013]
       {Vmax= 3.010:Dmax= 1.049}
       [Din= 1.05:Dused= 1.28]
R0005:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A2-MN          25.50    1.818 No_date   28:00   34.70  n/a     .000
                     +     1.0 02:101-102        48.13    3.277 No_date   28:03   32.56  n/a     .000
                  SUM=     1.0 01:MH102          73.63    5.095 No_date   28:03   33.30  n/a     .000
R0005:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH102          73.63    5.095 No_date   28:03   33.30  n/a     .000
       fname :MH102.0005
       remark:Total Flows at MH102
R0005:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A5               1.60     .202 No_date   28:01   44.32 .776     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A5              1.60     .202 No_date   28:01   44.32  n/a     .000
                  SUM=     1.0 01:A5T             1.60     .202 No_date   28:01   44.32  n/a     .000
R0005:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A5T             1.60     .202 No_date   28:01   44.32  n/a     .000
      Major System   /     1.0 02:A5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A5-MN           1.60     .202 No_date   28:01   44.32  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH102          73.63    5.095 No_date   28:03   33.30  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:102-103        73.63    4.821 No_date   28:05   33.30  n/a     .000
       [L/S/n=  504./ .280/.013]
       {Vmax= 2.606:Dmax= 1.382}
       [Din= 1.50:Dused= 1.68]
R0005:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:102-103        73.63    4.821 No_date   28:05   33.30  n/a     .000
                     +     1.0 02:A5-MN           1.60     .202 No_date   28:01   44.32  n/a     .000
                  SUM=     1.0 01:MH103          75.23    4.991 No_date   28:04   33.53  n/a     .000
R0005:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH103          75.23    4.991 No_date   28:04   33.53  n/a     .000
       fname :MH103.0005
       remark:Total Flows at MH103
R0005:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH103          75.23    4.991 No_date   28:04   33.53  n/a     .000
      [RDT= 1.00] out<-    1.0 01:103-104        75.23    4.875 No_date   28:06   33.53  n/a     .000
       [L/S/n=  438./ .460/.013]
       {Vmax= 3.219:Dmax= 1.124}
       [Din= 1.65:Dused= 1.65]
R0005:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A6               1.56     .200 No_date   28:01   44.32 .776     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A6              1.56     .200 No_date   28:01   44.32  n/a     .000
                  SUM=     1.0 01:A6T             1.56     .200 No_date   28:01   44.32  n/a     .000
R0005:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A6T             1.56     .200 No_date   28:01   44.32  n/a     .000
      Major System   /     1.0 02:A6-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A6-MN           1.56     .200 No_date   28:01   44.32  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A6-MN           1.56     .200 No_date   28:01   44.32  n/a     .000
                     +     1.0 02:103-104        75.23    4.875 No_date   28:06   33.53  n/a     .000
                     +     1.0 02:TODD_MJn       30.23    2.959 No_date   28:02   39.47  n/a     .000
                  SUM=     1.0 01:MH104         107.02    7.823 No_date   28:04   35.37  n/a     .000
R0005:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH104         107.02    7.823 No_date   28:04   35.37  n/a     .000
       fname :MH104.0005
       remark:Total Flows at MH104
R0005:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B2              12.31    1.023 No_date   28:02   34.82 .610     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B2             12.31    1.023 No_date   28:02   34.82  n/a     .000
      Major System   /     1.0 02:B2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B2-MN          12.31    1.023 No_date   28:02   34.82  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:B2-MN          12.31    1.023 No_date   28:02   34.82  n/a     .000
      [RDT= 1.00] out<-    1.0 01:315-333        12.31     .941 No_date   28:04   34.82  n/a     .000
       [L/S/n=  254./ .100/.013]
       {Vmax= 1.219:Dmax=  .834}
       [Din= 1.20:Dused= 1.20]
R0005:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B3               5.59     .477 No_date   28:02   34.82 .610     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B3              5.59     .477 No_date   28:02   34.82  n/a     .000
      Major System   /     1.0 02:B3-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B3-MN           5.59     .459 No_date   28:00   34.87  n/a     .000
      {MjSysSto=.3219E+01, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B3-MN           5.59     .459 No_date   28:00   34.87  n/a     .000
                     +     1.0 02:315-333        12.31     .941 No_date   28:04   34.82  n/a     .000
                  SUM=     1.0 01:MH333          17.90    1.400 No_date   28:04   34.84  n/a     .000
R0005:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH333          17.90    1.400 No_date   28:04   34.84  n/a     .000
       fname :MH333.0005
       remark:Total Flows at MH333
R0005:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH333          17.90    1.400 No_date   28:04   34.84  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:333-335        17.90    1.320 No_date   28:06   34.84  n/a     .000
       [L/S/n=  251./ .100/.013]
       {Vmax= 1.282:Dmax= 1.033}
       [Din= 1.20:Dused= 1.26]
R0005:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:333-335        17.90    1.320 No_date   28:06   34.84  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:335-338        17.90    1.265 No_date   28:06   34.84  n/a     .000
       [L/S/n=  185./ .100/.013]
       {Vmax= 1.264:Dmax= 1.010}
       [Din= 1.20:Dused= 1.23]
R0005:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:335-338        17.90    1.265 No_date   28:06   34.84  n/a     .000
      [RDT= 1.00] out<-    1.0 01:338-340        17.90    1.183 No_date   28:06   34.84  n/a     .000
       [L/S/n=  233./ .100/.013]
       {Vmax= 1.294:Dmax=  .872}
       [Din= 1.35:Dused= 1.35]
R0005:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B4               7.60     .638 No_date   28:02   34.82 .610     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B4              7.60     .638 No_date   28:02   34.82  n/a     .000
      Major System   /     1.0 02:B4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B4-MN           7.60     .638 No_date   28:02   34.82  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:338-340        17.90    1.183 No_date   28:06   34.84  n/a     .000
                     +     1.0 02:B4-MN           7.60     .638 No_date   28:02   34.82  n/a     .000
                  SUM=     1.0 01:MH340          25.50    1.761 No_date   28:05   34.83  n/a     .000
R0005:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH340          25.50    1.761 No_date   28:05   34.83  n/a     .000
       fname :MH340.0005
       remark:Total Flows at MH340
R0005:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH340          25.50    1.761 No_date   28:05   34.83  n/a     .000
      [RDT= 1.00] out<-    1.0 01:340-104        25.50    1.698 No_date   28:06   34.83  n/a     .000
       [L/S/n=  240./ .150/.013]
       {Vmax= 1.648:Dmax=  .823}
       [Din= 1.65:Dused= 1.65]
R0005:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:340-104        25.50    1.698 No_date   28:06   34.83  n/a     .000
                     +     1.0 02:MH104         107.02    7.823 No_date   28:04   35.37  n/a     .000
                  SUM=     1.0 01:MH104T        132.52    9.463 No_date   28:04   35.27  n/a     .000
R0005:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH104T        132.52    9.463 No_date   28:04   35.27  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:104-105       132.52    8.848 No_date   28:06   35.27  n/a     .000
       [L/S/n=  380./ .100/.013]
       {Vmax= 2.012:Dmax= 1.868}
       {HGTH= 2.20:WDTH= 2.52}
R0005:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B5               2.20     .248 No_date   28:00   38.90 .681     .000
       [XIMP=.57:TIMP=.57]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B5              2.20     .248 No_date   28:00   38.90  n/a     .000
      Major System   /     1.0 02:B5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B5-MN           2.20     .248 No_date   28:00   38.90  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A8                .96     .130 No_date   28:00   44.32 .776     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A6-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A8               .96     .130 No_date   28:00   44.32  n/a     .000
                  SUM=     1.0 01:A8T              .96     .130 No_date   28:00   44.32  n/a     .000
R0005:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A8T              .96     .130 No_date   28:00   44.32  n/a     .000
      Major System   /     1.0 02:A8-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A8-MN            .96     .130 No_date   28:00   44.32  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:104-105       132.52    8.848 No_date   28:06   35.27  n/a     .000
                     +     1.0 02:B5-MN           2.20     .248 No_date   28:00   38.90  n/a     .000
                     +     1.0 02:A8-MN            .96     .130 No_date   28:00   44.32  n/a     .000
                     +     1.0 02:TODD_MN3j        .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:MH105         135.68    9.064 No_date   28:05   35.39  n/a     .000
R0005:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH105         135.68    9.064 No_date   28:05   35.39  n/a     .000
       fname :MH105.0005
       remark:Total Flows at MH105
R0005:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *   DIVERT HYD      ->    1.0 01:A8-MJ            .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=    1.0 02:A8-MJ-JR         .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=    1.0 03:A8-MJ-B6         .00     .000 No_date    0:00     .00  n/a     .000
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R0005:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     DIVERT HYD      ->     1.0 01:MH105          135.68     9.064 No_date   28:05    35.39  n/a     .000
            diverted <=     1.0 02:MH105-JR        25.07     6.058 No_date   28:05    35.39  n/a     .000
            diverted <=     1.0 03:MH105-B6       110.61     3.006 No_date   28:05    35.39  n/a     .000
R0005:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B7               7.19      .661 No_date   28:01    34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B4-MJ             .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:B7               7.19      .661 No_date   28:01    34.82  n/a     .000
                  SUM=      1.0 01:B7-B4MJ          7.19      .661 No_date   28:01    34.82  n/a     .000
R0005:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B7-B4MJ          7.19      .661 No_date   28:01    34.82  n/a     .000
      Major System   /      1.0 02:B7R-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:B7R-MN           7.19      .629 No_date   27:59    34.89  n/a     .000
        {MJSysSto=.5005E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:B7R-MN           7.19      .629 No_date   27:59    34.89  n/a     .000
      [RDT= 1.00] out<-     1.0 01:360-106A         7.19      .615 No_date   28:05    34.89  n/a     .000
        [L/S/n=  167./ .100/.013]
        {Vmax= 1.089:Dmax=  .665}
        [Din= 1.05:Dused= 1.05]
R0005:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B6               3.29      .315 No_date   28:00    34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B6               3.29      .315 No_date   28:00    34.82  n/a     .000
      Major System   /      1.0 02:B6-MJ             .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:B6-MN            3.29      .064 No_date   27:39    34.87  n/a     .000
        {MJSysSto=.2841E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:EX-LAND         32.50     2.843 No_date   28:02    35.73 .626     .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0005:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:EX-LAND         32.50     2.843 No_date   28:02    35.73  n/a     .000
      Major System   /      1.0 02:EX-LAND-MJ        .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:EX-LAND-MN      32.50     2.275 No_date   27:57    35.73  n/a     .000
        {MJSysSto=.2310E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B7R-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:EX-LAND-MJ        .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:B5-MJ             .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:B6-MJ             .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:B6-MN            3.29      .064 No_date   27:39    34.87  n/a     .000
                     +      1.0 02:A8-MJ-B6          .00      .000 No_date    0:00      .00  n/a     .000
                  SUM=      1.0 01:B6-B7ExMJ        3.29      .064 No_date   27:39    34.87  n/a     .000
R0005:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B6-B7ExMJ        3.29      .064 No_date   27:39    34.87  n/a     .000
      Major System   /      1.0 02:B6R-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:B6R-MN           3.29      .064 No_date   27:39    34.87  n/a     .000
        {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH105-B6       110.61     3.006 No_date   28:05    35.39  n/a     .000
      [RDT= 1.00] out<-     1.0 01:105-106A       110.61     3.005 No_date   28:08    35.39  n/a     .000
        [L/S/n=  208./ .100/.013]
        {Vmax= 1.597:Dmax= 1.248}
        [Din= 1.80:Dused= 1.80]
R0005:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:360-106A         7.19      .615 No_date   28:05    34.89  n/a     .000
                     +      1.0 02:105-106A       110.61     3.005 No_date   28:08    35.39  n/a     .000
                     +      1.0 02:B6R-MN           3.29      .064 No_date   27:39    34.87  n/a     .000
                     +      1.0 02:B6R-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                  SUM=      1.0 01:MH106A         121.09     3.682 No_date   28:05    35.35  n/a     .000
R0005:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106A         121.09     3.682 No_date   28:05    35.35  n/a     .000
        fname :MH106A.0005
        remark:Total Flows at MH106A
R0005:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH106A         121.09     3.682 No_date   28:05    35.35  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:106A-106       121.09     3.651 No_date   28:05    35.35  n/a     .000
        [L/S/n=  190./ .100/.013]
        {Vmax= 1.633:Dmax= 1.484}
        [Din= 1.80:Dused= 1.81]
R0005:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A9               2.44      .316 No_date   28:00    44.32 .776     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A9               2.44      .316 No_date   28:00    44.32  n/a     .000
      Major System   /      1.0 02:A9-MJ             .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A9-MN            2.44      .316 No_date   28:00    44.32  n/a     .000
R0005:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106A-106       121.09     3.651 No_date   28:05    35.35  n/a     .000
                     +      1.0 02:A9-MN            2.44      .316 No_date   28:00    44.32  n/a     .000
                  SUM=      1.0 01:MH106          123.53     3.896 No_date   28:03    35.52  n/a     .000
R0005:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106          123.53     3.896 No_date   28:03    35.52  n/a     .000
        fname :MH106.0005
        remark:Total Flows at MH106
R0005:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH106          123.53     3.896 No_date   28:03    35.52  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:106-107        123.53     3.814 No_date   28:07    35.52  n/a     .000
        [L/S/n=  123./ .100/.013]
        {Vmax= 1.656:Dmax= 1.516}
        [Din= 1.80:Dused= 1.85]
R0005:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A10              4.14      .345 No_date   28:01    32.29 .565     .000
        [XIMP=.35:TIMP=.47]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A10              4.14      .345 No_date   28:01    32.29  n/a     .000
      Major System   /      1.0 02:A10-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A10-MN           4.14      .310 No_date   27:58    32.34  n/a     .000
        {MJSysSto=.7677E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A11             10.61     1.053 No_date   28:02    38.79 .679     .000
        [XIMP=.53:TIMP=.62]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A11             10.61     1.053 No_date   28:02    38.79  n/a     .000
      Major System   /      1.0 02:A11-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A11-MN          10.61      .993 No_date   28:00    38.82  n/a     .000
        {MJSysSto=.1280E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106-107        123.53     3.814 No_date   28:07    35.52  n/a     .000
                     +      1.0 02:A10-MN           4.14      .310 No_date   27:58    32.34  n/a     .000
                     +      1.0 02:A11-MN          10.61      .993 No_date   28:00    38.82  n/a     .000
                  SUM=      1.0 01:MH107          138.28     5.112 No_date   28:06    35.68  n/a     .000
R0005:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH107          138.28     5.112 No_date   28:06    35.68  n/a     .000
        fname :MH107.0005
        remark:Total Flows at MH107
R0005:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH107          138.28     5.112 No_date   28:06    35.68  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:107-119        138.28     5.061 No_date   28:07    35.68  n/a     .000
        [L/S/n=  114./ .120/.013]
        {Vmax= 1.898:Dmax= 1.622}
        [Din= 1.80:Dused= 1.98]
R0005:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:107-119        138.28     5.061 No_date   28:07    35.68  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:119-108        138.28     5.009 No_date   28:07    35.68  n/a     .000
        [L/S/n=   66./ .120/.013]
        {Vmax= 1.893:Dmax= 1.616}
        [Din= 1.80:Dused= 1.97]
R0005:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A12             12.29     1.145 No_date   28:00    34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A12             12.29     1.145 No_date   28:00    34.82  n/a     .000
      Major System   /      1.0 02:A12-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A12-MN          12.29     1.029 No_date   27:57    34.93  n/a     .000
        {MJSysSto=.2567E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A13              2.59      .312 No_date   28:01    44.32 .776     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A13              2.59      .312 No_date   28:01    44.32  n/a     .000
      Major System   /      1.0 02:A13-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A13-MN           2.59      .312 No_date   28:01    44.32  n/a     .000
R0005:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Pond-Block       2.94      .261 No_date   28:00    32.90 .576     .000
        [XIMP=.41:TIMP=.41]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:119-108        138.28     5.009 No_date   28:07    35.68  n/a     .000
                     +      1.0 02:A13-MN           2.59      .312 No_date   28:01    44.32  n/a     .000
                     +      1.0 02:A12-MN          12.29     1.029 No_date   27:57    34.93  n/a     .000
                  SUM=      1.0 01:MH108          153.16     6.257 No_date   28:01    35.77  n/a     .000
R0005:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH108          153.16     6.257 No_date   28:01    35.77  n/a     .000
        fname :MH108.0005
        remark:Total Flows at MH108
R0005:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH108          153.16     6.257 No_date   28:01    35.77  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:108-116        153.16     6.250 No_date   28:02    35.77  n/a     .000
        [L/S/n=   77./ .130/.013]
        {Vmax= 2.057:Dmax= 1.724}
        [Din= 1.80:Dused= 2.10]
R0005:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:108-116        153.16     6.250 No_date   28:02    35.77  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:116-corrig     153.16     6.248 No_date   28:07    35.77  n/a     .000
        [L/S/n=   80./ .130/.013]
        {Vmax= 2.057:Dmax= 1.723}
        [Din= 1.80:Dused= 2.10]
R0005:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:116-corrig     153.16     6.248 No_date   28:07    35.77  n/a     .000
                     +      1.0 02:Pond-Block       2.94      .261 No_date   28:00    32.90  n/a     .000
                  SUM=      1.0 01:Corrigan       156.10     6.442 No_date   28:02    35.71  n/a     .000
R0005:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:Corrigan       156.10     6.442 No_date   28:02    35.71  n/a     .000
        fname :Corrigan.0005
        remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0005:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Corrigan       156.10     6.442 No_date   28:02    35.71  n/a     .000
                 out <=     1.0 01:Co-P           156.10     5.462 No_date   28:10    35.71  n/a     .000
            overflow <=     1.0 03:Co-P-OVF          .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.9809E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:Co-P-OVF          .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:Co-P           156.10     5.462 No_date   28:10    35.71  n/a     .000
                     +      1.0 02:N_TO         54837.69    70.986 No_date   36:25    18.71  n/a     .000
                     +      1.0 02:MH105-JR        25.07     6.058 No_date   28:05    35.39  n/a     .000
                     +      1.0 02:A8-MJ-JR          .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:A9-MJ             .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:A10-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:A11-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:A12-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:A13-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                  SUM=      1.0 01:corrig       55018.86    71.381 No_date   36:24    18.77  n/a     .000
R0005:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:corrig       55018.86    71.381 No_date   36:24    18.77  n/a     .000
        fname :corrig.0005
        remark:Total Flows at Corrigan Pond
#***************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#***************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0005:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:corrig       55018.86    71.381 No_date   36:24    18.77  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_MI         55018.86    71.374 No_date   36:27    18.77  n/a     .000
        [L/S/n=  580./ .445/.045]
        {Vmax= 1.653:Dmax= 1.484}
#***************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#***************************************************************************
R0005:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:MILLS          175.99     9.992 No_date   28:07    30.98 .542     .000
        [XIMP=.38:TIMP=.38]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
#***************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#***************************************************************************
R0005:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:MILLS          175.99     9.992 No_date   28:07    30.97  n/a     .000
                 out <=     1.0 01:MILL_P         175.99     3.368 No_date   28:44    30.97  n/a     .000
            overflow <=     1.0 03:MIL-OV            .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.1941E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_MI         55018.86    71.374 No_date   36:27    18.77  n/a     .000
                     +      1.0 02:MIL-OV            .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:MILL_P         175.99     3.368 No_date   28:44    30.97  n/a     .000
                  SUM=      1.0 01:SN_MI        55194.85    71.782 No_date   36:25    18.81  n/a     .000
R0005:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_MI        55194.85    71.782 No_date   36:25    18.81  n/a     .000
        fname :SN_MI.0005
        remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0005:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_MI        55194.85    71.782 No_date   36:25    18.81  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_DE         55194.85    71.600 No_date   36:43    18.81  n/a     .000
        [L/S/n= 1962./ .223/.045]
        {Vmax= 1.311:Dmax= 1.906}
#***************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#***************************************************************************
R0005:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:DESIRE          23.78     1.359 No_date   28:03    27.22 .477     .000
        [XIMP=.25:TIMP=.25]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
#***************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#***************************************************************************
R0005:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:JOCKVA         225.13    14.675 No_date   28:09    35.73 .626     .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0005:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:EX-LAND-MN      32.50     2.275 No_date   27:57    35.73  n/a     .000
                     +      1.0 02:JOCKVA         225.13    14.675 No_date   28:09    35.73  n/a     .000
                     +      1.0 02:B2-MJ             .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:B3-MJ             .00      .000 No_date    0:00      .00  n/a     .000
                  SUM=      1.0 01:JOCKVA-TO      257.63    16.950 No_date   28:09    35.73  n/a     .000
R0005:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:JOCKVA-TO      257.63    16.950 No_date   28:09    35.73  n/a     .000
        fname :JOCKVA-TO.0005
        remark:Total Flows at KB first pond
#***************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#***************************************************************************
R0005:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO      257.63    16.950 No_date   28:09    35.73  n/a     .000
                 out <=     1.0 01:JOCK_P         257.63     4.781 No_date   28:48    35.73  n/a     .000
            overflow <=     1.0 03:JO-OVF            .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.4115E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_DE         55194.85    71.600 No_date   36:43    18.81  n/a     .000
                     +      1.0 02:DESIRE          23.78     1.359 No_date   28:03    27.22  n/a     .000
                     +      1.0 02:JO-OVF            .00      .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:JOCK_P         257.63     4.781 No_date   28:48    35.73  n/a     .000
                  SUM=      1.0 01:SN_DE        55476.26    72.224 No_date   36:39    18.89  n/a     .000
R0005:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_DE        55476.26    72.224 No_date   36:39    18.89  n/a     .000
        fname :SN_DE.0005
        remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0005:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_DE        55476.26    72.224 No_date   36:39    18.89  n/a     .000
      [RDT= 1.00] out<-     1.0 01:NI           55476.26    72.207 No_date   36:46    18.89  n/a     .000
        [L/S/n=  563./ .967/.045]
        {Vmax= 1.684:Dmax=  .961}
#***************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#***************************************************************************
R0005:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-2            102.94     2.262 No_date   28:20    19.00 .333     .000
        [CN= 72.0: N= 3.00: Tp=  .40]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
```

```
R0005:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N1          55476.26   72.207 No_date   36:46   18.89  n/a     .000
                     +       1.0 02:S-2           102.94    2.262 No_date   28:20   19.00  n/a     .000
                  SUM=       1.0 01:SN_N1       55579.20   72.356 No_date   36:46   18.89  n/a     .000
R0005:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:SN_N1       55579.20   72.356 No_date   36:46   18.89  n/a     .000
      fname :SN_N1.0005
      remark:Total Flows at Rideau River
#############################################################################
  ** END OF RUN :     9

*************************************************************************************************






 RUN#:COMMAND#
R0010:C00001-------------------------------------------------------------------------------------------
     START
      [TZERO =     .00 hrs on          0]
      [METOUT=    2    (1=imperial, 2=metric output)]
      [NSTORM=    1 ]
      [NRUN  = 0010 ]
#****************************************************************************
#  SWMHYMD Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#****************************************************************************
#  Project Name: [Jock River]     Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [M M]
#  Company       : JFSAinc.
#  License #     :  2549237
#****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# ----------------------------------------------------------------------------
R0010:C00002-------------------------------------------------------------------------------------------
     READ STORM
      Filename = storm 001
      Comment  = Pluie SCS de 24 hres 1:10 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  64.69]
R0010:C00003-------------------------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  64.69]
R0010:C00004-------------------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Based onvarious calibration exercises in Onta
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0010:C00005-------------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 97.81: APIavg= 62.29: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:JR_HW        3680.00   11.879 No_date   36:59   20.23 .313     .000
      [CN= 64.0: N= 3.00: Tp= 7.13]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_13         971.00    4.365 No_date   32:35   18.83 .291     .000
      [CN= 61.0: N= 3.00: Tp= 3.76]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:JR_GWM       3074.00    5.829 No_date   39:59   16.22 .251     .000
      [CN= 55.0: N= 3.00: Tp=11.33]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:JR_ASH       1781.00   10.839 No_date   32:42   24.81 .383     .000
      [CN= 72.0: N= 3.00: Tp= 3.91]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_11         500.00    5.639 No_date   29:22   21.19 .328     .000
      [CN= 66.0: N= 3.00: Tp= 1.24]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:NN_CK        1917.00    7.897 No_date   34:28   21.19 .328     .000
      [CN= 66.0: N= 3.00: Tp= 5.29]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_10        5666.00   21.255 No_date   37:58   24.81 .383     .000
      [CN= 72.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:KG_CK        8376.00   20.398 No_date   39:59   21.19 .328     .000
      [CN= 66.0: N= 3.00: Tp=11.66]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_9         1132.00    8.921 No_date   30:54   23.73 .367     .000
      [CN= 70.0: N= 3.00: Tp= 2.51]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:NC_CK        4464.00   10.128 No_date   39:59   19.29 .298     .000
      [CN= 62.0: N= 3.00: Tp=11.32]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_8          131.00    1.689 No_date   28:57   19.76 .305     .000
      [CN= 63.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:HB_DR        3854.00   11.811 No_date   38:37   21.19 .328     .000
      [CN= 66.0: N= 3.00: Tp= 8.42]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_7         3197.00    8.899 No_date   36:26   17.07 .264     .000
      [CN= 57.0: N= 3.00: Tp= 6.65]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_6          165.00     .818 No_date   33:04   21.69 .335     .000
      [CN= 67.0: N= 3.00: Tp= 4.18]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:VG_DR        1332.00    6.069 No_date   35:17   24.81 .383     .000
      [CN= 72.0: N= 3.00: Tp= 5.95]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_5          224.00    5.246 No_date   28:45   28.24 .437     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:FL_CK        4945.00   28.945 No_date   33:21   25.91 .401     .000
      [CN= 74.0: N= 3.00: Tp= 4.45]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_5A2         20.00     .614 No_date   28:36   31.37 .485     .000
      [CN= 81.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_5A1       1412.00    5.817 No_date   37:54   27.06 .418     .000
      [CN= 75.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_4          585.00    8.458 No_date   29:57   31.37 .485     .000
      [CN= 81.0: N= 3.00: Tp= 1.75]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:LM_CK        1021.00   11.195 No_date   30:48   30.72 .475     .000
      [CN= 80.0: N= 3.00: Tp= 2.46]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SW_2          177.00    4.146 No_date   28:45   28.24 .437     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:SM_DR        1122.00   10.275 No_date   31:46   31.37 .485     .000
      [CN= 81.0: N= 3.00: Tp= 3.25]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:MD_DR        2737.00   22.669 No_date   31:32   27.64 .427     .000
      [CN= 76.0: N= 3.00: Tp= 3.03]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:JR_HW        3680.00   11.879 No_date   36:59   20.23  n/a     .000
                     +       1.0 02:SW_13         971.00    4.365 No_date   32:35   18.83  n/a     .000
                  SUM=       1.0 01:S_N13        4651.00   15.130 No_date   35:28   19.94  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:S_N13        4651.00   15.130 No_date   35:28   19.94  n/a     .000
     [RDT= 1.00] out<-       1.0 01:N13A         4651.00   12.097 No_date   39:41   19.94  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .508:Dmax= 3.307}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N13A         4651.00   12.097 No_date   39:41   19.94  n/a     .000
                     +       1.0 02:JR_GWM       3074.00    5.829 No_date   39:59   16.22  n/a     .000
                  SUM=       1.0 01:SN13A        7725.00   17.918 No_date   39:59   18.46  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:SN13A        7725.00   17.918 No_date   39:59   18.46  n/a     .000
                 out <=      1.0 01:RES_GM       7725.00    3.524 No_date   58:32   18.46  n/a     .000
     {MxStoUsed=.8503E+02  m3}
#
R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:RES_GM       7725.00    3.524 No_date   58:32   18.46  n/a     .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:RES_GM       7725.00    3.524 No_date   58:32   18.46  n/a     .000
     [RDT= 1.00] out<-       1.0 01:N12          7725.00    3.519 No_date   61:53   18.46  n/a     .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .546:Dmax= 1.499}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N12          7725.00    3.519 No_date   61:53   18.46  n/a     .000
                     +       1.0 02:JR_ASH       1781.00   10.839 No_date   32:42   24.81  n/a     .000
                  SUM=       1.0 01:S_N12        9506.00   12.834 No_date   32:45   19.65  n/a     .000
R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:S_N12        9506.00   12.834 No_date   32:45   19.65  n/a     .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:S_N12        9506.00   12.834 No_date   32:45   19.65  n/a     .000
     [RDT= 1.00] out<-       1.0 01:Dum11        9506.00   12.710 No_date   33:02   19.65  n/a     .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .680:Dmax= 2.598}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:Dum11        9506.00   12.710 No_date   33:02   19.65  n/a     .000
                     +       1.0 02:SW_11         500.00    5.639 No_date   29:22   21.19  n/a     .000
                     +       1.0 02:NN_CK        1917.00    7.897 No_date   34:28   21.19  n/a     .000
                  SUM=       1.0 01:S_N11       11923.00   21.813 No_date   33:05   19.96  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:S_N11       11923.00   21.813 No_date   33:05   19.96  n/a     .000
     [RDT= 1.00] out<-       1.0 01:N10         11923.00   14.761 No_date   39:58   19.96  n/a     .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .452:Dmax= 1.212}
#
# Addition of Subwatershed 10 to Node 10
#
R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N10         11923.00   14.761 No_date   39:58   19.96  n/a     .000
                     +       1.0 02:SW_10        5666.00   21.255 No_date   37:58   24.81  n/a     .000
                  SUM=       1.0 01:S_N10       17589.00   35.808 No_date   38:35   21.52  n/a     .000
R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:S_N10       17589.00   35.808 No_date   38:35   21.52  n/a     .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:S_N10       17589.00   35.808 No_date   38:35   21.52  n/a     .000
                     +       1.0 02:KG_CK        8376.00   20.398 No_date   39:59   21.19  n/a     .000
                  SUM=       1.0 01:S_N10A      25965.00   55.807 No_date   39:58   21.41  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:S_N10A      25965.00   55.807 No_date   39:58   21.41  n/a     .000
     [RDT= 1.00] out<-       1.0 01:N9          25965.00   54.076 No_date   39:59   21.41  n/a     .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .682:Dmax= 1.695}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N9          25965.00   54.076 No_date   39:59   21.41  n/a     .000
                     +       1.0 02:SW_9         1132.00    8.921 No_date   30:54   23.73  n/a     .000
                     +       1.0 02:NC_CK        4464.00   10.128 No_date   39:59   19.29  n/a     .000
                  SUM=       1.0 01:S_N9        31561.00   66.284 No_date   39:59   21.20  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:S_N9        31561.00   66.284 No_date   39:59   21.20  n/a     .000
     [RDT= 1.00] out<-       1.0 01:N8          31561.00   61.483 No_date   39:57   21.20  n/a     .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .363:Dmax= 1.619}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

```
     ADD HYD                    1.0 02:N8          31561.00   61.483 No_date   39:57   21.20  n/a     .000
                         +      1.0 02:SW_8          131.00    1.689 No_date   28:57   19.76  n/a     .000
                         +      1.0 02:HB_DR        3854.00   11.811 No_date   38:37   21.19  n/a     .000
                      SUM=      1.0 01:S_N8        35546.00   73.344 No_date   39:57   21.19  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N8        35546.00   73.344 No_date   39:57   21.19  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N7          35546.00   61.416 No_date   45:01   21.19  n/a     .000
       [L/S/n= 3750./ .053/.070]
       {Vmax=  .218:Dmax= 1.987}
#
# Addition of Subwatershed 7 to Node 7
#
R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:N7          35546.00   61.416 No_date   45:01   21.19  n/a     .000
                         +      1.0 02:SW_7         3197.00    8.899 No_date   36:26   17.07  n/a     .000
                      SUM=      1.0 01:S_N7        38743.00   65.819 No_date   44:06   20.85  n/a     .000
R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                   1.0 01:S_N7        38743.00   65.819 No_date   44:06   20.85  n/a     .000
       fname :H_SN7
       remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S_N7        38743.00   65.819 No_date   44:06   20.85  n/a     .000
                out <=      1.0 01:RES_RF      38743.00   31.796 No_date   60:32   20.85  n/a     .000
      {MxStoUsed=.2597E+03  m3}
R0010:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                   1.0 01:RES_RF      38743.00   31.796 No_date   60:32   20.85  n/a     .000
       fname :H_ResRF
       remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0010:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:RES_RF      38743.00   31.796 No_date   60:32   20.85  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N6          38743.00   31.737 No_date   62:00   20.85  n/a     .000
       [L/S/n= 3056./ .082/.025]
       {Vmax=  .477:Dmax=  .960}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0010:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:N6          38743.00   31.737 No_date   62:00   20.85  n/a     .000
                         +      1.0 02:SW_6          165.00     .818 No_date   33:04   21.69  n/a     .000
                         +      1.0 02:VG_DR        1332.00    6.069 No_date   35:17   24.81  n/a     .000
                      SUM=      1.0 01:S_N6        40240.01   31.737 No_date   62:00   20.99  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0010:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N6        40240.01   31.737 No_date   62:00   20.99  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N5          40240.01   31.713 No_date   62:48   20.99  n/a     .000
       [L/S/n= 1852./ .054/.035]
       {Vmax=  .412:Dmax= 1.069}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0010:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:N5          40240.01   31.713 No_date   62:48   20.99  n/a     .000
                         +      1.0 02:SW_5          224.00    5.246 No_date   28:45   28.24  n/a     .000
                         +      1.0 02:FL_CK        4945.00   28.945 No_date   33:21   25.91  n/a     .000
                      SUM=      1.0 01:S_N5        45409.01   51.448 No_date   34:54   21.56  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0010:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N5        45409.01   51.448 No_date   34:54   21.56  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N5A         45409.01   51.312 No_date   35:12   21.56  n/a     .000
       [L/S/n=  556./ .090/.040]
       {Vmax=  .485:Dmax= 1.131}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0010:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:N5A         45409.01   51.312 No_date   35:12   21.56  n/a     .000
                         +      1.0 02:SW_5A2         20.00     .614 No_date   28:36   31.37  n/a     .000
                         +      1.0 02:SW_5A1       1412.00    5.817 No_date   37:54   27.06  n/a     .000
                      SUM=      1.0 01:S_N5A       46841.01   56.788 No_date   35:22   21.73  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0010:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N5A       46841.01   56.788 No_date   35:22   21.73  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N4          46841.01   54.543 No_date   36:56   21.73  n/a     .000
       [L/S/n= 4630./ .043/.035]
       {Vmax=  .793:Dmax= 3.295}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0010:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:N4          46841.01   54.543 No_date   36:56   21.73  n/a     .000
                         +      1.0 02:SW_4          585.00    8.458 No_date   29:57   31.37  n/a     .000
                         +      1.0 02:LM_CK        1021.00   11.195 No_date   30:48   30.72  n/a     .000
                      SUM=      1.0 01:S_N4        48447.00   59.934 No_date   36:12   22.03  n/a     .000
R0010:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                   1.0 01:S_N4        48447.00   59.934 No_date   36:12   22.03  n/a     .000
       fname :S_N4.0010
       remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0010:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N4        48447.00   59.934 No_date   36:12   22.03  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N2          48447.00   59.699 No_date   36:35   22.03  n/a     .000
       [L/S/n= 1667./ .060/.040]
       {Vmax=  .824:Dmax= 3.325}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0010:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:N2          48447.00   59.699 No_date   36:35   22.03  n/a     .000
                         +      1.0 02:SW_2          177.00    4.146 No_date   28:45   28.24  n/a     .000
                         +      1.0 02:SM_DR        1122.00   10.275 No_date   31:46   31.37  n/a     .000
                         +      1.0 02:MD_DR        2737.00   22.669 No_date   31:32   27.64  n/a     .000
                      SUM=      1.0 01:S_N2        52483.00   83.235 No_date   33:15   22.55  n/a     .000
R0010:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                   1.0 01:S_N2        52483.00   83.235 No_date   33:15   22.55  n/a     .000
       fname :H_SN2
       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0010:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N2        52483.00   83.235 No_date   33:15   22.55  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_416       52483.00   81.216 No_date   34:18   22.55  n/a     .000
       [L/S/n= 2327./ .050/.055]
       {Vmax=  .705:Dmax= 2.943}
#****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#****************************************************************************
R0010:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_1a          536.42    3.888 No_date   31:17   23.57 .364    .000
       [CN= 72.0: N= 3.00: Tp= 2.79]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0010:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-Okeefe      44.93     .778 No_date   29:07   26.85 .415    .000
       [CN= 77.0: N= 3.00: Tp= 1.05]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0010:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:N_416       52483.00   81.216 No_date   34:18   22.55  n/a     .000
                         +      1.0 02:SW_1a         536.42    3.888 No_date   31:17   23.57  n/a     .000
                         +      1.0 02:S-1-Okeefe     44.93     .778 No_date   29:07   26.85  n/a     .000
                      SUM=      1.0 01:SN_416      53064.36   84.151 No_date   33:41   22.56  n/a     .000
R0010:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                   1.0 01:SN_416      53064.36   84.151 No_date   33:41   22.56  n/a     .000
       fname :SN_416.0010
       remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0010:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_416      53064.36   84.151 No_date   33:41   22.56  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_OK        53064.36   84.059 No_date   34:06   22.56  n/a     .000
       [L/S/n=  497./ .302/.055]
       {Vmax= 1.450:Dmax= 2.495}
#****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#****************************************************************************
R0010:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-1              63.72     .684 No_date   28:58   17.24 .266    .000
       [CN= 61.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
R0010:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:O-1              63.72     .684 No_date   28:58   17.24  n/a     .000
      [RDT= 1.00] out<-     1.0 01:O-1R             63.72     .637 No_date   29:17   17.24  n/a     .000
       [L/S/n=  960./ .630/.043]
       {Vmax=  .755:Dmax=  .334}
R0010:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-2              28.61     .242 No_date   29:13   16.01 .248    .000
       [CN= 57.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
R0010:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-4              46.94     .303 No_date   29:00   12.15 .188    .000
       [CN= 49.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
       [InterEventTime=  12.00]
R0010:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:O-1R             63.72     .637 No_date   29:17   17.24  n/a     .000
                         +      1.0 02:O-2              28.61     .242 No_date   29:13   16.01  n/a     .000
                         +      1.0 02:O-4              46.94     .303 No_date   29:00   12.15  n/a     .000
                      SUM=      1.0 01:OKF-N           139.27    1.172 No_date   29:12   15.27  n/a     .000
R0010:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:OKF-N           139.27    1.172 No_date   29:12   15.27  n/a     .000
      [RDT= 1.00] out<-     1.0 01:OKF-NR          139.27    1.170 No_date   29:16   15.27  n/a     .000
       [L/S/n=  210./ .810/.043]
       {Vmax=  .916:Dmax=  .609}
R0010:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-6              16.46     .101 No_date   28:45   10.60 .164    .000
       [CN= 43.0: N= 3.00: Tp=  .70]
       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
       [InterEventTime=  12.00]
R0010:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:O-3              39.67     .767 No_date   28:24   19.36 .299    .000
       [XIMP=.15:TIMP=.30]
       [LOSS= 2 :CN= 50.0]
       [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 99.77: SMAX=665.12: SK= .010]
R0010:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:O-5              60.63    1.881 No_date   28:10   22.00 .340    .000
       [XIMP=.13:TIMP=.26]
       [LOSS= 2 :CN= 61.0]
       [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 64.50: SMAX=430.01: SK= .010]
R0010:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:OKF-NR          139.27    1.170 No_date   29:16   15.27  n/a     .000
                         +      1.0 02:O-3              39.67     .767 No_date   28:24   19.36  n/a     .000
                         +      1.0 02:O-5              60.63    1.881 No_date   28:10   22.00  n/a     .000
                         +      1.0 02:O-6              16.46     .101 No_date   28:45   10.60  n/a     .000
                      SUM=      1.0 01:PT1             256.03    3.008 No_date   28:23   17.20  n/a     .000
R0010:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-7               5.28     .056 No_date   28:37   14.05 .217    .000
       [CN= 54.0: N= 3.00: Tp=  .60]
       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
       [InterEventTime=  12.00]
R0010:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:PT1             256.03    3.008 No_date   28:23   17.20  n/a     .000
                         +      1.0 02:O-7               5.28     .056 No_date   28:37   14.05  n/a     .000
                      SUM=      1.0 01:FF              261.31    3.058 No_date   28:23   17.14  n/a     .000
R0010:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:FF              261.31    3.058 No_date   28:23   17.14  n/a     .000
      [RDT= 1.00] out<-     1.0 01:DRAIN1          261.31    2.972 No_date   28:31   17.14  n/a     .000
       [L/S/n=  302./1.000/.043]
       {Vmax=  .783:Dmax=  .667}
R0010:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D1                1.17     .058 No_date   28:12   29.30 .453    .000
       [CN= 84.0: N= 3.00: Tp=  .28]
       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
       [InterEventTime=  12.00]
R0010:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A1                2.50     .391 No_date   28:01   50.29 .777    .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A1                2.50     .391 No_date   28:01   50.29  n/a     .000
                out <=      1.0 01:A1-STR            2.50     .098 No_date   28:24   50.29  n/a     .000
           overflow <=      1.0 03:A1-OVF             .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5829E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-2               .59     .075 No_date   28:00   38.69 .598    .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-2               .59     .075 No_date   28:00   38.69  n/a     .000
                out <=      1.0 01:ST2STR             .59     .052 No_date   28:05   38.69  n/a     .000
           overflow <=      1.0 03:ST2OVF             .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1835E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-8              60.55     .857 No_date   29:04   22.40 .346    .000
       [CN= 69.0: N= 3.00: Tp= 1.00]
       [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
       [InterEventTime=  12.00]
R0010:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:O-8              60.55     .857 No_date   29:04   22.40  n/a     .000
      [RDT= 1.00] out<-     1.0 01:O8PIPE           60.55     .852 No_date   29:08   22.40  n/a     .000
       [L/S/n=  335./ .100/.013]
       {Vmax= 1.080:Dmax=  .441}
       {HGTH= 1.20:WDTH= 1.80}
R0010:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:DRAIN1          261.31    2.972 No_date   28:31   17.14  n/a     .000
                         +      1.0 02:D1                1.17     .058 No_date   28:12   29.30  n/a     .000
                         +      1.0 02:A1-STR            2.50     .098 No_date   28:24   50.29  n/a     .000
                         +      1.0 02:A1-OVF             .00     .000 No_date    0:00     .00  n/a     .000
                         +      1.0 02:ST2STR             .59     .052 No_date   28:05   38.69  n/a     .000
                         +      1.0 02:ST2OVF             .00     .000 No_date    0:00     .00  n/a     .000
                         +      1.0 02:O8PIPE           60.55     .852 No_date   29:08   22.40  n/a     .000
                      SUM=      1.0 01:ST2-IN          326.12    3.771 No_date   28:40   18.45  n/a     .000
R0010:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A7                3.51     .538 No_date   28:01   50.29 .777    .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A7                3.51     .538 No_date   28:01   50.29  n/a     .000
                out <=      1.0 01:A7-STR            3.51     .139 No_date   28:25   50.29  n/a     .000
           overflow <=      1.0 03:A7-OVF             .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.8167E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-3               .71     .089 No_date   28:00   38.69 .598    .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-3               .71     .089 No_date   28:00   38.69  n/a     .000
                out <=      1.0 01:ST3STR             .71     .063 No_date   28:05   38.69  n/a     .000
           overflow <=      1.0 03:ST3OVF             .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1988E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                    1.0 02:ST2-IN          326.12    3.771 No_date   28:40   18.45  n/a     .000
                         +      1.0 02:A7-STR            3.51     .139 No_date   28:25   50.29  n/a     .000
                         +      1.0 02:A7-OVF             .00     .000 No_date    0:00     .00  n/a     .000
                         +      1.0 02:ST3STR             .71     .063 No_date   28:05   38.69  n/a     .000
                         +      1.0 02:ST3OVF             .00     .000 No_date    0:00     .00  n/a     .000
                      SUM=      1.0 01:PT2ST3          330.34    3.914 No_date   28:39   18.83  n/a     .000
R0010:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:PT2ST3          330.34    3.914 No_date   28:39   18.83  n/a     .000
      [RDT= 1.00] out<-     1.0 01:DRAIN2          330.34    3.640 No_date   29:01   18.83  n/a     .000
       [L/S/n=  592./ .230/.043]
       {Vmax=  .582:Dmax= 1.002}
R0010:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D2                2.28     .046 No_date   29:04   29.30 .453    .000
       [CN= 84.0: N= 3.00: Tp=  .99]
       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
       [InterEventTime=  12.00]
R0010:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A17              12.04    1.618 No_date   28:04   50.29 .777    .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A17              12.04    1.618 No_date   28:04   50.29  n/a     .000
                out <=      1.0 01:A17STR           12.04     .460 No_date   28:31   50.29  n/a     .000
           overflow <=      1.0 03:A17OVF             .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2771E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-4               .35     .046 No_date   28:00   38.69 .598    .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-4               .35     .046 No_date   28:00   38.69  n/a     .000
                out <=      1.0 01:ST4STR             .35     .031 No_date   28:04   38.69  n/a     .000
           overflow <=      1.0 03:ST4OVF             .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1424E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A18               5.30     .780 No_date   28:02   50.29 .777    .000
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        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:A18              5.30    .780 No_date  28:02   50.29  n/a    .000
                out <=   1.0 01:A18STR           5.30    .206 No_date  28:27   50.29  n/a    .000
           overflow <=   1.0 03:A18OVF            .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.1232E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:DRAIN2         330.34   3.640 No_date  29:01   18.83  n/a    .000
                 +       1.0 02:D2               2.28    .046 No_date  29:04   29.30  n/a    .000
                 +       1.0 02:A17STR          12.04    .460 No_date  28:31   50.29  n/a    .000
                 +       1.0 02:A17OVF            .00    .000 No_date   0:00     .00  n/a    .000
                 +       1.0 02:ST4STR            .35    .031 No_date  28:04   38.69  n/a    .000
                 +       1.0 02:ST4OVF            .00    .000 No_date   0:00     .00  n/a    .000
                 +       1.0 02:A18STR           5.30    .206 No_date  28:27   50.29  n/a    .000
                 +       1.0 02:A18OVF            .00    .000 No_date   0:00     .00  n/a    .000
              SUM=       1.0 01:PT3ST4         350.31   4.213 No_date  28:57   20.48  n/a    .000
R0010:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:PT3ST4         350.31   4.213 No_date  28:57   20.48  n/a    .000
     [RDT= 1.00] out<-   1.0 01:DRAIN3         350.31   4.037 No_date  29:17   20.48  n/a    .000
      [L/S/n=  525./ .230/.043]
      {Vmax=  .606:Dmax= 1.049}
R0010:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:D3               2.51    .072 No_date  28:44   32.13 .497    .000
        [CN= 86.0: N= 3.00: Tp=  .73]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0010:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:C1               3.41    .523 No_date  28:01   50.29 .777    .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:C1               3.41    .523 No_date  28:01   50.29  n/a    .000
                out <=   1.0 01:C1-STR           3.41    .133 No_date  28:25   50.29  n/a    .000
           overflow <=   1.0 03:C1-OVF            .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.7930E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:ST-5              .45    .058 No_date  28:00   38.69 .598    .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:ST-5              .45    .058 No_date  28:00   38.69  n/a    .000
                out <=   1.0 01:ST5STR            .45    .040 No_date  28:04   38.69  n/a    .000
           overflow <=   1.0 03:ST5OVF            .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.1552E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:DRAIN3         350.31   4.037 No_date  29:17   20.48  n/a    .000
                 +       1.0 02:D3               2.51    .072 No_date  28:44   32.13  n/a    .000
                 +       1.0 02:C1-STR           3.41    .133 No_date  28:25   50.29  n/a    .000
                 +       1.0 02:C1-OVF            .00    .000 No_date   0:00     .00  n/a    .000
                 +       1.0 02:ST5STR            .45    .040 No_date  28:04   38.69  n/a    .000
                 +       1.0 02:ST5OVF            .00    .000 No_date   0:00     .00  n/a    .000
              SUM=       1.0 01:ST5-E          356.68   4.181 No_date  29:15   20.87  n/a    .000
R0010:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:STRAND           7.59    .759 No_date  28:11   49.05 .758    .000
        [XIMP=.64:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:STRAND           7.59    .759 No_date  28:11   49.05  n/a    .000
                out <=   1.0 01:S-POND           7.59    .066 No_date  29:41   49.05  n/a    .000
           overflow <=   1.0 03:S-OVF             .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.2593E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:ST5-E          356.68   4.181 No_date  29:15   20.87  n/a    .000
                 +       1.0 02:S-POND           7.59    .066 No_date  29:41   49.05  n/a    .000
                 +       1.0 02:S-OVF             .00    .000 No_date   0:00     .00  n/a    .000
              SUM=       1.0 01:SSAOUT         364.27   4.242 No_date  29:15   21.45  n/a    .000
R0010:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:SSAOUT         364.27   4.242 No_date  29:15   21.45  n/a    .000
      fname :SSAOUT.0010
      remark:SSAOUT
R0010:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:Area-A          66.75   6.470 No_date  28:10   48.24 .746    .000
        [XIMP=.64:TIMP=.80]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:Area-A          66.75   6.470 No_date  28:10   48.24  n/a    .000
      fname :Area-A.0010
      remark:SMWF-A Inflow
R0010:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:Area-A          66.75   6.470 No_date  28:10   48.24  n/a    .000
                out <=   1.0 01:SWMF-A          66.75    .465 No_date  29:54   48.24  n/a    .000
           overflow <=   1.0 03:SWMAOV            .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.2359E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:SWMF-A          66.75    .465 No_date  29:54   48.24  n/a    .000
      fname :SWMF-A.0010
      remark:SMWF-A Outflow
R0010:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:SSAOUT         364.27   4.242 No_date  29:15   21.45  n/a    .000
                 +       1.0 02:SWMF-A          66.75    .465 No_date  29:54   48.24  n/a    .000
                 +       1.0 02:SWMAOV            .00    .000 No_date   0:00     .00  n/a    .000
              SUM=       1.0 01:PT4ST5         431.02   4.657 No_date  29:18   25.60  n/a    .000
R0010:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:C6               1.87    .301 No_date  28:01   50.29 .777    .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:C6               1.87    .301 No_date  28:01   50.29  n/a    .000
                out <=   1.0 01:C6-STR           1.87    .074 No_date  28:22   50.29  n/a    .000
           overflow <=   1.0 03:C6-OVF            .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.4376E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:C7               1.62    .262 No_date  28:01   50.29 .777    .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:C7               1.62    .262 No_date  28:01   50.29  n/a    .000
                out <=   1.0 01:C7-STR           1.62    .064 No_date  28:22   50.29  n/a    .000
           overflow <=   1.0 03:C7-OVF            .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.3781E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:ST-6              .41    .053 No_date  28:00   38.69 .598    .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:ST-6              .41    .053 No_date  28:00   38.69  n/a    .000
                out <=   1.0 01:ST6STR            .41    .036 No_date  28:04   38.69  n/a    .000
           overflow <=   1.0 03:ST6OVF            .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.1514E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:PT4ST5         431.02   4.657 No_date  29:18   25.60  n/a    .000
                 +       1.0 02:C6-STR           1.87    .074 No_date  28:22   50.29  n/a    .000
                 +       1.0 02:C6-OVF            .00    .000 No_date   0:00     .00  n/a    .000
                 +       1.0 02:C7-STR           1.62    .064 No_date  28:22   50.29  n/a    .000
                 +       1.0 02:C7-OVF            .00    .000 No_date   0:00     .00  n/a    .000
                 +       1.0 02:ST6STR            .41    .036 No_date  28:04   38.69  n/a    .000
                 +       1.0 02:ST6OVF            .00    .000 No_date   0:00     .00  n/a    .000
              SUM=       1.0 01:PT5ST6         434.92   4.740 No_date  29:18   25.81  n/a    .000
R0010:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:PT5ST6         434.92   4.740 No_date  29:18   25.81  n/a    .000
     [RDT= 1.00] out<-   1.0 01:DRAIN4         434.92   4.599 No_date  29:31   25.81  n/a    .000
      [L/S/n=  324./ .100/.043]
      {Vmax=  .468:Dmax= 1.312}
R0010:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:D4               1.73    .063 No_date  28:35   34.48 .533    .000
        [CN= 88.0: N= 3.00: Tp=  .60]
        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
        [InterEventTime=  12.00]
R0010:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:Area-B          24.04   3.287 No_date  28:03   47.09 .728    .000
        [XIMP=.62:TIMP=.77]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:Area-B          24.04   3.287 No_date  28:03   47.09  n/a    .000
                out <=   1.0 01:SWMF-B          24.04    .356 No_date  28:50   47.09  n/a    .000
           overflow <=   1.0 03:SWMBOVF           .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.7142E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:DRAIN4         434.92   4.599 No_date  29:31   25.81  n/a    .000
                 +       1.0 02:D4               1.73    .063 No_date  28:35   34.48  n/a    .000
                 +       1.0 02:SWMF-B          24.04    .356 No_date  28:50   47.09  n/a    .000
                 +       1.0 02:SWMBOVF           .00    .000 No_date   0:00     .00  n/a    .000
              SUM=       1.0 01:D4-EX          460.69   4.958 No_date  29:31   26.95  n/a    .000
R0010:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:D4-EX          460.69   4.958 No_date  29:31   26.95  n/a    .000
     [RDT= 1.00] out<-   1.0 01:DRAIN5         460.69   4.881 No_date  29:37   26.95  n/a    .000
      [L/S/n=  413./ .160/.033]
      {Vmax=  .599:Dmax=  .896}
R0010:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:D5               1.90    .057 No_date  28:41   32.13 .497    .000
        [CN= 86.0: N= 3.00: Tp=  .69]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0010:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-13SDF          9.74    .371 No_date  28:22   30.32 .469    .000
        [CN= 81.0: N= 3.00: Tp=  .43]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0010:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:O-13SDF          9.74    .371 No_date  28:22   30.32  n/a    .000
                out <=   1.0 01:SDF              9.74    .040 No_date  31:17   30.32  n/a    .000
           overflow <=   1.0 03:OVFSDF            .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.1596E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:DRAIN5         460.69   4.881 No_date  29:37   26.95  n/a    .000
                 +       1.0 02:D5               1.90    .057 No_date  28:41   32.13  n/a    .000
                 +       1.0 02:SDF              9.74    .040 No_date  31:17   30.32  n/a    .000
              SUM=       1.0 01:PT6MC          472.33   4.951 No_date  29:37   27.04  n/a    .000
R0010:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-15            10.67    .502 No_date  28:13   29.12 .450    .000
        [CN= 82.0: N= 3.00: Tp=  .30]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime=  12.00]
R0010:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:PT6MC          472.33   4.951 No_date  29:37   27.04  n/a    .000
                 +       1.0 02:O-15            10.67    .502 No_date  28:13   29.12  n/a    .000
              SUM=       1.0 01:M-C            483.00   5.029 No_date  29:36   27.09  n/a    .000
R0010:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:M-C            483.00   5.029 No_date  29:36   27.09  n/a    .000
     [RDT= 1.00] out<-   1.0 01:O-14Ch         483.00   4.686 No_date  30:11   27.09  n/a    .000
      [L/S/n=  845./ .100/.033]
      {Vmax=  .618:Dmax= 1.565}
R0010:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-14             5.00    .389 No_date  28:04   29.12 .450    .000
        [CN= 82.0: N= 3.00: Tp=  .13]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime=  12.00]
R0010:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:O-14Ch         483.00   4.686 No_date  30:11   27.09  n/a    .000
                 +       1.0 02:O-14             5.00    .389 No_date  28:04   29.12  n/a    .000
              SUM=       1.0 01:OKEEFE         488.00   4.709 No_date  30:11   27.11  n/a    .000
#*****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
R0010:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:S-1-D2          18.67    .308 No_date  29:12   26.85 .415    .000
        [CN= 77.0: N= 3.00: Tp= 1.12]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0010:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:S-1-D3           6.79    .102 No_date  29:24   26.85 .415    .000
        [CN= 77.0: N= 3.00: Tp= 1.28]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0010:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N_OK         53064.36  84.059 No_date  34:06   22.56  n/a    .000
                 +       1.0 02:OKEEFE         488.00   4.709 No_date  30:11   27.11  n/a    .000
                 +       1.0 02:S-1-D2          18.67    .308 No_date  29:12   26.85  n/a    .000
                 +       1.0 02:S-1-D3           6.79    .102 No_date  29:24   26.85  n/a    .000
              SUM=       1.0 01:SN_OK        53577.82  85.805 No_date  33:41   22.60  n/a    .000
R0010:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:SN_OK        53577.82  85.805 No_date  33:41   22.60  n/a    .000
      fname :SN_OK.0010
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0010:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:SN_OK        53577.82  85.805 No_date  33:41   22.60  n/a    .000
     [RDT= 1.00] out<-   1.0 01:N_FO         53577.82  85.613 No_date  34:07   22.60  n/a    .000
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.103:Dmax= 2.861}
#*****************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#*****************************************************************************
R0010:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:FOSTER         325.44  22.870 No_date  28:13   43.99 .680    .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
R0010:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:FOSTER         325.44  22.870 No_date  28:13   43.99  n/a    .000
                out <=   1.0 01:P_FOS          325.44   6.061 No_date  29:06   43.99  n/a    .000
           overflow <=   1.0 03:FO-OVF            .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.5862E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:P_FOS          325.44   6.061 No_date  29:06   43.99  n/a    .000
                 +       1.0 02:FO-OVF            .00    .000 No_date   0:00     .00  n/a    .000
              SUM=       1.0 01:FOSTER-OUT     325.44   6.061 No_date  29:06   43.99  n/a    .000
#*****************************************************************************
R0010:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:W_CLAR_BRA      73.29   7.523 No_date  28:05   47.94 .741    .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:W_CLAR_BRA      73.29   7.523 No_date  28:05   47.94  n/a    .000
                out <=   1.0 01:MS_P10          73.29   1.136 No_date  29:00   47.94  n/a    .000
           overflow <=   1.0 03:P10-OVF           .00    .000 No_date   0:00     .00  n/a    .000
      {MxStoUsed=.1341E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:S-1-FO-D2        4.94    .083 No_date  29:11   26.85 .415    .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0010:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:FOSTER-OUT     325.44   6.061 No_date  29:06   43.99  n/a    .000
                 +       1.0 02:S-1-FO-D2        4.94    .083 No_date  29:11   26.85  n/a    .000
              SUM=       1.0 01:980            330.38   6.143 No_date  29:06   43.73  n/a    .000
R0010:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:980            330.38   6.143 No_date  29:06   43.73  n/a    .000
      fname :980.0010
      remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0010:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:980            330.38   6.143 No_date  29:06   43.73  n/a    .000
     [RDT= 1.00] out<-   1.0 01:980-out        330.38   5.938 No_date  29:11   43.73  n/a    .000
      [L/S/n=  460./ .043/.035]
      {Vmax=  .635:Dmax= 1.384}
R0010:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:S-1-FO-D1        5.11    .085 No_date  29:11   26.85 .415    .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0010:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:980-out        330.38   5.938 No_date  29:11   43.73  n/a    .000
                 +       1.0 02:S-1-FO-D1        5.11    .085 No_date  29:11   26.85  n/a    .000
              SUM=       1.0 01:520            335.49   6.023 No_date  29:11   43.47  n/a    .000
R0010:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:520            335.49   6.023 No_date  29:11   43.47  n/a    .000
      fname :520.0010
      remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0010:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:520            335.49   6.023 No_date  29:11   43.47  n/a    .000
     [RDT= 1.00] out<-   1.0 01:520-out        335.49   5.972 No_date  29:28   43.48  n/a    .000
      [L/S/n=  860./ .587/.035]
      {Vmax= 1.395:Dmax=  .662}
R0010:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:S-1-FO-F-D      14.96    .267 No_date  29:04   26.85 .415    .000
        [CN= 77.0: N= 3.00: Tp= 1.01]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0010:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-D8           5.27    .768 No_date  28:00   48.63 .752    .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:S-1-A           75.88   1.915 No_date  28:36   26.85 .415    .000
        [CN= 77.0: N= 3.00: Tp=  .62]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0010:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:W_CLAR_UND      35.65    .596 No_date  29:11   26.85 .415    .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
```

```
        [InterEventTime=  12.00]
R0010:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N_FO         53577.82   85.613 No_date   34:07   22.60  n/a     .000
                     +       1.0 02:520-out        335.49    5.972 No_date   29:28   43.48  n/a     .000
                     +       1.0 02:MS_P10          73.29    1.136 No_date   29:00   47.94  n/a     .000
                     +       1.0 02:P10-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:W_CLAR_UND      35.65     .596 No_date   29:11   26.85  n/a     .000
                     +       1.0 02:S-1-FO-F-D      14.96     .267 No_date   29:04   26.85  n/a     .000
                     +       1.0 02:S-1-D8           5.27     .768 No_date   28:00   48.63  n/a     .000
                     +       1.0 02:S-1-A           75.88    1.915 No_date   28:36   26.85  n/a     .000
                  SUM=       1.0 01:SN_FO        54118.36   89.156 No_date   33:42   22.78  n/a     .000
R0010:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:SN_FO        54118.36   89.156 No_date   33:42   22.78  n/a     .000
      fname :SN_FO.0010
      remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0010:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:SN_FO        54118.36   89.156 No_date   33:42   22.78  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:N_CE         54118.36   89.070 No_date   33:43   22.78  n/a     .000
      [L/S/n=  159./ .082/.035]
      {Vmax= 1.328:Dmax= 3.415}
#**************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#**************************************************************************
R0010:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:S-1-B           55.36    1.740 No_date   28:24   26.85 .415     .000
      [CN= 77.0:  N= 3.00:  Tp=  .45]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0010:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:S-1-D1          21.67     .371 No_date   29:08   26.85 .415     .000
      [CN= 77.0:  N= 3.00:  Tp= 1.07]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
R0010:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:S-1-D4           3.28     .055 No_date   29:11   26.85 .415     .000
      [CN= 77.0:  N= 3.00:  Tp= 1.10]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
R0010:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:S-1-D5          12.84     .215 No_date   29:11   26.85 .415     .000
      [CN= 77.0:  N= 3.00:  Tp= 1.10]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
R0010:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:S-1-D6           1.75     .029 No_date   29:11   26.85 .415     .000
      [CN= 77.0:  N= 3.00:  Tp= 1.10]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
R0010:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:S-1-D7           2.03     .034 No_date   29:11   26.85 .415     .000
      [CN= 77.0:  N= 3.00:  Tp= 1.10]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#**************************************************************************
R0010:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:W_CLAR_MJ        1.77     .229 No_date   28:00   43.97 .680     .000
      [XIMP=.46:TIMP=.59]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0010:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:W_CLAR_MJ        1.77     .229 No_date   28:00   43.97  n/a     .000
                 out <=      1.0 01:W_CLAR_MIn       1.77     .213 No_date   27:58   43.97  n/a     .000
            overflow <=      1.0 03:W_CLAR_MJj        .00     .013 No_date   28:00   43.97  n/a     .000
     {MxStoUsed=.8179E-04  m3, TotOvfVol=.1952E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0010:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:W_CLAR_ALL     119.40   12.497 No_date   28:05   47.94 .741     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0010:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:W_CLAR_ALL     119.40   12.497 No_date   28:05   47.94  n/a     .000
                     +       1.0 02:W_CLAR_MJj        .00     .013 No_date   28:00   43.97  n/a     .000
                  SUM=       1.0 01:W_CLAR         119.40   12.497 No_date   28:05   47.94  n/a     .000
R0010:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:W_CLAR         119.40   12.497 No_date   28:05   47.94  n/a     .000
      fname :W_CLAR.0010
      remark:Total Flows to West Clarke
#**************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#**************************************************************************
R0010:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:W_CLAR         119.40   12.497 No_date   28:05   47.94  n/a     .000
                 out <=      1.0 01:MS_P2          119.40    3.959 No_date   28:33   47.94  n/a     .000
            overflow <=      1.0 03:P2-OVF            .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2802E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#**************************************************************************
R0010:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N_CE         54118.36   89.070 No_date   33:43   22.78  n/a     .000
                     +       1.0 02:S-1-D4           3.28     .055 No_date   29:11   26.85  n/a     .000
                     +       1.0 02:S-1-D5          12.84     .215 No_date   29:11   26.85  n/a     .000
                     +       1.0 02:MS_P2          119.40    3.959 No_date   28:33   47.94  n/a     .000
                     +       1.0 02:P2-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=       1.0 01:SN_CE        54253.88   89.884 No_date   33:43   22.84  n/a     .000
R0010:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:SN_CE        54253.88   89.884 No_date   33:43   22.84  n/a     .000
      fname :SN_CE.0010
      remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
# JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
R0010:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:SN_CE        54253.88   89.884 No_date   33:43   22.84  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:5737         54253.88   86.609 No_date   35:45   22.84  n/a     .000
      [L/S/n=  270./ .018/.035]
      {Vmax=  .730:Dmax= 4.471}
R0010:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:5737         54253.88   86.609 No_date   35:45   22.84  n/a     .000
                     +       1.0 02:S-1-D1          21.67     .371 No_date   29:08   26.85  n/a     .000
                     +       1.0 02:S-1-D6           1.75     .029 No_date   29:11   26.85  n/a     .000
                     +       1.0 02:S-1-D7           2.03     .034 No_date   29:11   26.85  n/a     .000
                  SUM=       1.0 01:5002         54279.34   86.671 No_date   35:45   22.84  n/a     .000
R0010:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:5002         54279.34   86.671 No_date   35:45   22.84  n/a     .000
      fname :5002.0010
      remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0010:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:5002         54279.34   86.671 No_date   35:45   22.84  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:N_WCa        54279.34   86.687 No_date   35:42   22.84  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.138:Dmax= 2.539}
R0010:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:N_WCa        54279.34   86.687 No_date   35:42   22.84  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:N_WCb        54279.34   86.651 No_date   35:51   22.84  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.138:Dmax= 2.539}
R0010:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:N_WCb        54279.34   86.651 No_date   35:51   22.84  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:N_WC         54279.34   86.639 No_date   35:58   22.84  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.138:Dmax= 2.539}
#**************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0010:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:N_WC         54279.34   86.639 No_date   35:58   22.84  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:N_KB         54279.34   86.222 No_date   36:19   22.84  n/a     .000
      [L/S/n= 1020./ .050/.035]
      {Vmax= 1.007:Dmax= 3.153}
#**************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#**************************************************************************
#**************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#**************************************************************************
R0010:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-01A          40.82    3.338 No_date   28:12   24.14 .373     .000
      [XIMP=.10:TIMP=.40]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:KB-01A          40.82    3.338 No_date   28:12   24.14  n/a     .000
     Major System   /        1.0 02:KB-01A-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:KB-01A-MN       40.82    3.338 No_date   28:12   24.14  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-01A-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:KB-01A-MN       40.82    3.338 No_date   28:12   24.14  n/a     .000
                  SUM=       1.0 01:KB-01A-S        40.82    3.338 No_date   28:12   24.14  n/a     .000
R0010:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-01B          31.10    2.335 No_date   28:08   26.73 .413     .000
      [XIMP=.19:TIMP=.38]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:KB-01B          31.10    2.335 No_date   28:08   26.73  n/a     .000
     Major System   /        1.0 02:KB-01B-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:KB-01B-MN       31.10    1.585 No_date   27:59   26.78  n/a     .000
      {MJSysSto=.8272E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-01B-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:KB-01B-MN       31.10    1.585 No_date   27:59   26.78  n/a     .000
                  SUM=       1.0 01:KB-01B-S        31.10    1.585 No_date   27:59   26.78  n/a     .000
R0010:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-01C          13.78    1.534 No_date   28:05   27.74 .429     .000
      [XIMP=.20:TIMP=.41]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:KB-01C          13.78    1.534 No_date   28:05   27.74  n/a     .000
     Major System   /        1.0 02:KB-01C-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:KB-01C-MN       13.78    1.350 No_date   28:00   27.93  n/a     .000
      {MJSysSto=.6901E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-01C-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:KB-01C-MN       13.78    1.350 No_date   28:00   27.93  n/a     .000
                  SUM=       1.0 01:KB-01C-S        13.78    1.350 No_date   28:00   27.93  n/a     .000
R0010:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-03           84.78    7.685 No_date   28:09   27.30 .422     .000
      [XIMP=.20:TIMP=.39]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:KB-03           84.78    7.685 No_date   28:09   27.30  n/a     .000
     Major System   /        1.0 02:KB-03-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:KB-03-MN        84.78    5.270 No_date   27:59   27.40  n/a     .000
      {MJSysSto=.2022E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-03-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:KB-03-MN        84.78    5.270 No_date   27:59   27.40  n/a     .000
                  SUM=       1.0 01:KB-03-S         84.78    5.270 No_date   27:59   27.40  n/a     .000
R0010:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-04            6.95    1.217 No_date   28:01   56.45 .873     .000
      [XIMP=.85:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:KB-04            6.95    1.217 No_date   28:01   56.45  n/a     .000
     Major System   /        1.0 02:KB-04-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:KB-04-MN         6.95     .503 No_date   27:46   56.53  n/a     .000
      {MJSysSto=.5392E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-04-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:KB-04-MN         6.95     .503 No_date   27:46   56.53  n/a     .000
                  SUM=       1.0 01:KB-04-S          6.95     .503 No_date   27:46   56.53  n/a     .000
R0010:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-05            5.19     .983 No_date   28:00   59.76 .924     .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-06           12.93    2.536 No_date   28:00   57.57 .890     .000
      [XIMP=.87:TIMP=.87]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:KB-06           12.93    2.536 No_date   28:00   57.57  n/a     .000
     Major System   /        1.0 02:KB-06-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:KB-06-MN        12.93    2.262 No_date   27:56   57.80  n/a     .000
      {MJSysSto=.6369E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-06-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:KB-06-MN        12.93    2.262 No_date   27:56   57.80  n/a     .000
                  SUM=       1.0 01:KB-06-S         12.93    2.262 No_date   27:56   57.80  n/a     .000
R0010:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-11            4.03     .686 No_date   28:00   48.04 .743     .000
      [XIMP=.68:TIMP=.68]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:KB-11            4.03     .686 No_date   28:00   48.04  n/a     .000
     Major System   /        1.0 02:KB-11-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:KB-11-MN         4.03     .577 No_date   27:55   48.44  n/a     .000
      {MJSysSto=.2954E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-11-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:KB-11-MN         4.03     .577 No_date   27:55   48.44  n/a     .000
                  SUM=       1.0 01:KB-11-S          4.03     .577 No_date   27:55   48.44  n/a     .000
R0010:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:S1               4.99    1.020 No_date   28:00   59.76 .924     .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-15            2.15     .377 No_date   28:00   54.15 .837     .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-01A-S        40.82    3.338 No_date   28:12   24.14  n/a     .000
                     +       1.0 02:KB-01B-S        31.10    1.585 No_date   27:59   26.78  n/a     .000
                     +       1.0 02:KB-01C-S        13.78    1.350 No_date   28:00   27.93  n/a     .000
                     +       1.0 02:KB-03-S         84.78    5.270 No_date   27:59   27.40  n/a     .000
                     +       1.0 02:KB-04-S          6.95     .503 No_date   27:46   56.53  n/a     .000
                     +       1.0 02:KB-05            5.19     .983 No_date   28:00   59.76  n/a     .000
                     +       1.0 02:KB-06-S         12.93    2.262 No_date   27:56   57.80  n/a     .000
                     +       1.0 02:KB-11-S          4.03     .577 No_date   27:55   48.44  n/a     .000
                     +       1.0 02:KB-15            2.15     .377 No_date   28:00   54.15  n/a     .000
                     +       1.0 02:S1               4.99    1.020 No_date   28:00   59.76  n/a     .000
                  SUM=       1.0 01:KB-P1          206.72   16.418 No_date   28:01   31.86  n/a     .000
R0010:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:KB-P1          206.72   16.418 No_date   28:01   31.86  n/a     .000
                 out <=      1.0 01:KB-P1R         206.72   12.427 No_date   28:17   31.86  n/a     .000
            overflow <=      1.0 03:KB-P1ovf          .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.7282E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-P1R         206.72   12.427 No_date   28:17   31.86  n/a     .000
                     +       1.0 02:KB-P1ovf          .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=       1.0 01:KB-Pond1       206.72   12.427 No_date   28:17   31.86  n/a     .000
R0010:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:KB-Pond1       206.72   12.427 No_date   28:17   31.86  n/a     .000
      fname :KB-Pond1.0010
      remark:Total Flows at KB first pond
R0010:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-07           10.86    2.042 No_date   28:00   57.07 .882     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:KB-07           10.86    2.042 No_date   28:00   57.07  n/a     .000
     Major System   /        1.0 02:KB-07-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:KB-07-MN        10.86    2.042 No_date   28:00   57.07  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-07-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:KB-07-MN        10.86    2.042 No_date   28:00   57.07  n/a     .000
                  SUM=       1.0 01:KB-07-S         10.86    2.042 No_date   28:00   57.07  n/a     .000
R0010:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-08            6.61    1.072 No_date   28:00   46.33 .716     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:KB-08            6.61    1.072 No_date   28:00   46.33  n/a     .000
     Major System   /        1.0 02:KB-08-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:KB-08-MN         6.61    1.058 No_date   28:00   46.37  n/a     .000
      {MJSysSto=.9091E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-08-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:KB-08-MN         6.61    1.058 No_date   28:00   46.37  n/a     .000
                  SUM=       1.0 01:KB-08-S          6.61    1.058 No_date   28:00   46.37  n/a     .000
R0010:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-09            2.60     .515 No_date   28:00   56.40 .872     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
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R0010:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_1         2.37      .470 No_date   28:00   56.40 .872      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_2         1.14      .229 No_date   28:00   56.40 .872      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-12           4.86      .900 No_date   28:00   53.41 .826      .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-12           4.86      .900 No_date   28:00   53.41  n/a      .000
      Major System   /     1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:KB-12-MN        4.86      .867 No_date   27:58   53.47  n/a      .000
       {MjSysSto=.3261E+01, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:KB-12-MN        4.86      .867 No_date   27:58   53.47  n/a      .000
                 SUM=      1.0 01:KB-12-S         4.86      .867 No_date   27:58   53.47  n/a      .000
R0010:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-13          10.19     1.611 No_date   28:00   46.33 .716      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-13          10.19     1.611 No_date   28:00   46.33  n/a      .000
      Major System   /     1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:KB-13-MN       10.19     1.611 No_date   28:00   46.33  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:KB-13-MN       10.19     1.611 No_date   28:00   46.33  n/a      .000
                 SUM=      1.0 01:KB-13-S        10.19     1.611 No_date   28:00   46.33  n/a      .000
R0010:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-14           5.47      .898 No_date   28:00   46.33 .716      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-14           5.47      .898 No_date   28:00   46.33  n/a      .000
      Major System   /     1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:KB-14-MN        5.47      .873 No_date   27:59   46.40  n/a      .000
       {MjSysSto=.1663E+01, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:KB-14-MN        5.47      .873 No_date   27:59   46.40  n/a      .000
                 SUM=      1.0 01:KB-14-S         5.47      .873 No_date   27:59   46.40  n/a      .000
R0010:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_2         3.42      .545 No_date   28:01   50.20 .776      .000
       [XIMP=.71:TIMP=.71]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond1      206.72    12.427 No_date   28:17   31.86  n/a      .000
                    +      1.0 02:KB-07-S        10.86     2.042 No_date   28:00   57.07  n/a      .000
                    +      1.0 02:KB-08-S         6.61     1.058 No_date   28:00   46.37  n/a      .000
                    +      1.0 02:KB-09           2.60      .515 No_date   28:00   56.40  n/a      .000
                    +      1.0 02:KB-10_1         2.37      .470 No_date   28:00   56.40  n/a      .000
                    +      1.0 02:KB-10_2         1.14      .229 No_date   28:00   56.40  n/a      .000
                    +      1.0 02:KB-12-S         4.86      .867 No_date   27:58   53.47  n/a      .000
                    +      1.0 02:KB-13-S        10.19     1.611 No_date   28:00   46.33  n/a      .000
                    +      1.0 02:KB-14-S         5.47      .873 No_date   27:59   46.40  n/a      .000
                    +      1.0 02:KB-16_2         3.42      .545 No_date   28:01   50.20  n/a      .000
                 SUM=      1.0 01:KB-P2         254.24    19.235 No_date   28:01   35.46  n/a      .000
R0010:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P2         254.24    19.235 No_date   28:01   35.46  n/a      .000
                 out <=    1.0 01:KB-P2R        254.24    15.083 No_date   28:10   35.46  n/a      .000
            overflow <=    1.0 03:KB-P2ovf         .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.7575E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P2R        254.24    15.083 No_date   28:10   35.46  n/a      .000
                    +      1.0 02:KB-P2ovf         .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=      1.0 01:KB-Pond2      254.24    15.083 No_date   28:10   35.46  n/a      .000
R0010:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond2      254.24    15.083 No_date   28:10   35.46  n/a      .000
       fname :KB-Pond2.0010
       remark:Total Flows at KB second pond
R0010:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_1         2.80      .465 No_date   28:01   52.17 .806      .000
       [XIMP=.75:TIMP=.75]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond2      254.24    15.083 No_date   28:10   35.46  n/a      .000
                    +      1.0 02:KB-16_1         2.80      .465 No_date   28:01   52.17  n/a      .000
                 SUM=      1.0 01:KB-P3         257.04    15.295 No_date   28:08   35.64  n/a      .000
R0010:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P3         257.04    15.295 No_date   28:08   35.64  n/a      .000
                 out <=    1.0 01:KB-P3R         12.26      .051 No_date   17:31   35.64  n/a      .000
            overflow <=    1.0 03:KB-P3ovf      244.78    15.243 No_date   28:09   35.64  n/a      .000
      {MxStoUsed=.1993E-02  m3, TotOvfVol=.8724E+01  m3, N-Ovf=     2, TotDurOvf=    23.hrs}
R0010:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P3R         12.26      .051 No_date   17:31   35.64  n/a      .000
                    +      1.0 02:KB-P3ovf      244.78    15.243 No_date   28:09   35.64  n/a      .000
                 SUM=      1.0 01:KB-Pond3      257.04    15.294 No_date   28:09   35.64  n/a      .000
R0010:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond3      257.04    15.294 No_date   28:09   35.64  n/a      .000
       fname :KB-Pond3.0010
       remark:Total Flows at KB third pond
#****************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#****************************************************************************
R0010:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-01           8.03     1.049 No_date   28:01   37.67 .582      .000
       [XIMP=.47:TIMP=.47]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-01           8.03     1.049 No_date   28:01   37.67  n/a      .000
      Major System   /     1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:FC-01-MN        8.03      .756 No_date   28:17   37.91  n/a      .000
       {MjSysSto=.1270E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:FC-01-MN        8.03      .756 No_date   27:55   37.91  n/a      .000
                 SUM=      1.0 01:FC-01-S         8.03      .756 No_date   27:55   37.91  n/a      .000
R0010:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-02          16.05     2.930 No_date   28:01   59.76 .924      .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-02          16.05     2.930 No_date   28:01   59.76  n/a      .000
      Major System   /     1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:FC-02-MN       16.05     1.159 No_date   27:46   59.94  n/a      .000
       {MjSysSto=.1407E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:FC-02-MN       16.05     1.159 No_date   27:46   59.94  n/a      .000
                 SUM=      1.0 01:FC-02-S        16.05     1.159 No_date   27:46   59.94  n/a      .000
R0010:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-03           7.37     1.130 No_date   28:01   45.83 .708      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-03           7.37     1.130 No_date   28:01   45.83  n/a      .000
      Major System   /     1.0 02:FC-03-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:FC-03-MN        7.37      .358 No_date   27:45   45.93  n/a      .000
       {MjSysSto=.6763E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-03-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:FC-03-MN        7.37      .358 No_date   27:45   45.93  n/a      .000
                 SUM=      1.0 01:FC-03-S         7.37      .358 No_date   27:45   45.93  n/a      .000
R0010:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-04          12.87     1.906 No_date   28:01   45.83 .708      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-04          12.87     1.906 No_date   28:01   45.83  n/a      .000
      Major System   /     1.0 02:FC-04-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:FC-04-MN       12.87      .741 No_date   27:46   45.93  n/a      .000
       {MjSysSto=.9380E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-04-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:FC-04-MN       12.87      .741 No_date   27:46   45.93  n/a      .000
                 SUM=      1.0 01:FC-04-S        12.87      .741 No_date   27:46   45.93  n/a      .000
#****************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#****************************************************************************
R0010:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-01           8.24     1.257 No_date   28:01   45.83 .708      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-01           8.24     1.257 No_date   28:01   45.83  n/a      .000
      Major System   /     1.0 02:JR-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:JR-01-MN        8.24      .563 No_date   28:39   46.14  n/a      .000
       {MjSysSto=.4889E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:JR-01-MN        8.24      .563 No_date   27:47   46.14  n/a      .000
                 SUM=      1.0 01:JR-01-S         8.24      .563 No_date   27:47   46.14  n/a      .000
R0010:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-02           1.59      .264 No_date   28:00   45.83 .708      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-02           1.59      .264 No_date   28:00   45.83  n/a      .000
      Major System   /     1.0 02:JR-02-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:JR-02-MN        1.59      .153 No_date   27:51   46.12  n/a      .000
       {MjSysSto=.5453E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-02-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:JR-02-MN        1.59      .153 No_date   27:51   46.12  n/a      .000
                 SUM=      1.0 01:JR-02-S         1.59      .153 No_date   27:51   46.12  n/a      .000
#****************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#****************************************************************************
R0010:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FRASER-DRN     13.65      .447 No_date   28:22   26.85 .415      .000
       [CN= 77.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0010:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FRASER-D       21.61      .514 No_date   28:40   26.85 .415      .000
       [CN= 77.0: N= 3.00: Tp=  .67]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0010:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond3      257.04    15.294 No_date   28:09   35.64  n/a      .000
                    +      1.0 02:S-1-B          55.36     1.740 No_date   28:24   26.85  n/a      .000
                    +      1.0 02:FRASER-DRN     13.65      .447 No_date   28:22   26.85  n/a      .000
                    +      1.0 02:FRASER-D       21.61      .514 No_date   28:40   26.85  n/a      .000
                    +      1.0 02:N_KB        54279.34    86.222 No_date   36:19   22.84  n/a      .000
                    +      1.0 02:FC-01-S         8.03      .756 No_date   27:55   37.91  n/a      .000
                    +      1.0 02:FC-02-S        16.05     1.159 No_date   27:46   59.94  n/a      .000
                    +      1.0 02:FC-03-S         7.37      .358 No_date   27:45   45.93  n/a      .000
                 SUM=      1.0 01:4241        54658.45    86.752 No_date   36:15   22.92  n/a      .000
R0010:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:4241        54658.45    86.752 No_date   36:15   22.92  n/a      .000
       fname :4241.0010
       remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0010:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:4241        54658.45    86.752 No_date   36:15   22.92  n/a      .000
      [RDT= 1.00] out<-    1.0 01:4241-out    54658.45    86.790 No_date   36:12   22.92  n/a      .000
       [L/S/n=  294./ .109/.035]
       {Vmax= 1.177:Dmax= 2.026}
R0010:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:4241-out    54658.45    86.790 No_date   36:12   22.92  n/a      .000
                    +      1.0 02:FC-04-S        12.87      .741 No_date   27:46   45.93  n/a      .000
                    +      1.0 02:JR-01-S         8.24      .563 No_date   27:47   46.14  n/a      .000
                    +      1.0 02:JR-02-S         1.59      .153 No_date   27:51   46.12  n/a      .000
                 SUM=      1.0 01:SN_KB       54681.14    86.824 No_date   36:12   22.93  n/a      .000
R0010:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_KB       54681.14    86.824 No_date   36:12   22.93  n/a      .000
       fname :SN_KB.0010
       remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0010:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_KB       54681.14    86.824 No_date   36:12   22.93  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N_TO        54681.14    86.765 No_date   36:18   22.93  n/a      .000
       [L/S/n=  608./ .247/.035]
       {Vmax= 1.560:Dmax= 1.526}
#****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#****************************************************************************
R0010:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Greenbank      36.60     4.662 No_date   28:02   49.38 .763      .000
       [XIMP=.64:TIMP=.68]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Greenbank      36.60     4.662 No_date   28:02   49.38  n/a      .000
                 out <=    1.0 01:GreenB_MN      36.60     1.697 No_date   28:18   49.38  n/a      .000
            overflow <=    1.0 03:GreenB_MJ        .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.8299E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0010:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_TO        54681.14    86.765 No_date   36:18   22.93  n/a      .000
                    +      1.0 02:GreenB_MJ        .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:GreenB_MN      36.60     1.697 No_date   28:18   49.38  n/a      .000
                 SUM=      1.0 01:GreenB      54717.74    86.895 No_date   36:17   22.95  n/a      .000
R0010:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:GreenB      54717.74    86.895 No_date   36:17   22.95  n/a      .000
       fname :GreenB.0010
       remark:Total Flows at Greenbank Drain
#****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0010:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_MN2        2.10      .282 No_date   28:00   44.92 .694      .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_MN3         .12      .016 No_date   28:00   44.90 .694      .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_MJ        30.23     3.512 No_date   28:02   46.20 .714      .000
       [XIMP=.52:TIMP=.64]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_ALL      112.91    10.943 No_date   28:05   44.71 .691      .000
       [XIMP=.52:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_P          3.06      .451 No_date   28:00   48.23 .745      .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0010:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD_MJ        30.23     3.512 No_date   28:02   46.20  n/a      .000
                 out <=    1.0 01:TODD_MJn       30.14     3.314 No_date   28:00   46.20  n/a      .000
            overflow <=    1.0 03:TODD_MJj         .09      .190 No_date   28:03   46.20  n/a      .000
      {MxStoUsed=.4110E-03  m3, TotOvfVol=.4062E-02  m3, N-Ovf=     1, TotDurOvf=     0.hrs}
# 5-Year + 12% Capture
R0010:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD_MN2        2.10      .282 No_date   28:00   44.92  n/a      .000
                 out <=    1.0 01:TODD_MN2n       2.10      .268 No_date   27:58   44.92  n/a      .000
            overflow <=    1.0 03:TODD_MN2j        .00      .011 No_date   28:00   44.92  n/a      .000
      {MxStoUsed=.1267E-03  m3, TotOvfVol=.1440E-03  m3, N-Ovf=     1, TotDurOvf=     0.hrs}
R0010:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:TODD_MN3         .12      .016 No_date   28:00   44.90  n/a      .000
                 out <=    1.0 01:TODD_MN3n        .12      .016 No_date   28:00   44.90  n/a      .000
            overflow <=    1.0 03:TODD_MN3j        .00      .000 No_date   28:00   44.90  n/a      .000
      {MxStoUsed=.1007E-03  m3, TotOvfVol=.1379E-05  m3, N-Ovf=     1, TotDurOvf=     0.hrs}
```

```
R0010:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A2              25.50   2.388 No_date   28:03   40.97 .633     .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A2              25.50   2.388 No_date   28:03   40.97  n/a     .000
     Major System   /    1.0 02:A2-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A2-MN           25.50   1.818 No_date   27:57   40.97  n/a     .000
      {MjSysSto=.2896E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:TODD_MN2n        2.10    .268 No_date   27:58   44.92  n/a     .000
                    +    1.0 02:TODD_MN3n         .12    .016 No_date   28:00   44.90  n/a     .000
                    +    1.0 02:TODD_MJj          .09    .190 No_date   28:03   46.20  n/a     .000
                    +    1.0 02:TODD_P           3.06    .451 No_date   28:00   48.23  n/a     .000
                    +    1.0 02:TODD_ALL       112.91  10.943 No_date   28:05   44.71  n/a     .000
                    +    1.0 02:W_CLAR_MJn       1.77    .213 No_date   27:58   43.97  n/a     .000
                 SUM=    1.0 01:TODD           120.03  11.699 No_date   28:03   44.79  n/a     .000
R0010:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:TODD           120.03  11.699 No_date   28:03   44.79  n/a     .000
      fname :TODD.0010
      remark:Total Flows at Todd Drain
#**********************************************************************************
#    Todd Pond 3
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#**********************************************************************************
R0010:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:TODD           120.03  11.699 No_date   28:03   44.79  n/a     .000
                out <=   1.0 01:MS_P3          120.03   6.151 No_date   28:20   44.79  n/a     .000
           overflow <=   1.0 03:P3-OVF            .00    .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2461E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:GreenB       54717.74  86.895 No_date   36:17   22.95  n/a     .000
                    +    1.0 02:MS_P3          120.03   6.151 No_date   28:20   44.79  n/a     .000
                    +    1.0 02:P3-OVF            .00    .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:TODD_MN2j         .00    .011 No_date   28:00   44.92  n/a     .000
                    +    1.0 02:A2-MJ             .00    .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:SN_TO        54837.78  87.200 No_date   36:16   23.00  n/a     .000
R0010:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:SN_TO        54837.78  87.200 No_date   36:16   23.00  n/a     .000
      fname :SN_TO.0010
      remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0010:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:SN_TO        54837.78  87.200 No_date   36:16   23.00  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:N_TO         54837.78  87.112 No_date   36:28   23.00  n/a     .000
      [L/S/n=  280./ .050/.045]
      {Vmax=  .886:Dmax= 2.877}
R0010:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:N_TO         54837.78  87.112 No_date   36:28   23.00  n/a     .000
      fname :N_TO.0010
      remark:Total inflows at Station 2462
#**********************************************************************************
#    Catchment CORRIG
#     - To Corrigan Drain (south of the Jock)
#     - Primarily Developed (medium density)
#     - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#**********************************************************************************
R0010:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:corr1           15.87   2.113 No_date   28:01   48.23 .746     .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0010:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:corr1           15.87   2.113 No_date   28:01   48.23  n/a     .000
     Major System   /    1.0 02:corr1-MJ          .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:corr1-MN        15.87   1.818 No_date   28:09   48.38  n/a     .000
      {MjSysSto=.8936E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:corr2           12.47    .209 No_date   29:11   26.85 .415     .000
      [CN= 77.0:  N= 3.00:  Tp= 1.10]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
R0010:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A1-Corrig       15.75   1.640 No_date   28:02   40.97 .633     .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A1-Corrig       15.75   1.640 No_date   28:02   40.97  n/a     .000
     Major System   /    1.0 02:A1-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A1-MN           15.75   1.640 No_date   28:02   40.97  n/a     .000
      {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:B1               2.77    .072 No_date   28:09   16.64 .257     .000
      [CN= 56.0:  N= 3.00:  Tp=  .23]
      [IaREC= 4.00:  SMIN= 79.69:  SMAX=531.24:  SK= .010]
      [InterEventTime=  12.00]
R0010:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A4               1.27    .178 No_date   28:00   48.63 .752     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A4               1.27    .178 No_date   28:00   48.63  n/a     .000
     Major System   /    1.0 02:A4-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A4-MN            1.27    .178 No_date   28:00   48.63  n/a     .000
      {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A1-MJ             .00    .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A1-MN           15.75   1.640 No_date   28:02   40.97  n/a     .000
                    +    1.0 02:corr1-MJ          .00    .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:corr1-MN        15.87   1.818 No_date   28:09   48.38  n/a     .000
                    +    1.0 02:corr2           12.47    .209 No_date   29:11   26.85  n/a     .000
                    +    1.0 02:B1               2.77    .072 No_date   28:09   16.64  n/a     .000
                    +    1.0 02:A4-MN            1.27    .178 No_date   28:00   48.63  n/a     .000
                 SUM=    1.0 01:MH101           48.13   3.734 No_date   28:02   38.56  n/a     .000
R0010:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH101           48.13   3.734 No_date   28:02   38.56  n/a     .000
      fname :MH101.0010
      remark:Total Flows at MH101
R0010:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:MH101           48.13   3.734 No_date   28:02   38.56  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:101-102         48.13   3.662 No_date   28:03   38.56  n/a     .000
      [L/S/n=  368./ .540/.013]
      {Vmax= 3.084:Dmax= 1.088}
      [Din= 1.05:Dused= 1.33}
R0010:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A2-MN           25.50   1.818 No_date   27:57   40.97  n/a     .000
                    +    1.0 02:101-102         48.13   3.662 No_date   28:03   38.56  n/a     .000
                 SUM=    1.0 01:MH102           73.63   5.480 No_date   28:03   39.39  n/a     .000
R0010:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH102           73.63   5.480 No_date   28:03   39.39  n/a     .000
      fname :MH102.0010
      remark:Total Flows at MH102
R0010:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A5               1.60    .236 No_date   28:01   51.11 .790     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A4-MJ             .00    .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A5               1.60    .236 No_date   28:01   51.11  n/a     .000
                 SUM=    1.0 01:A5T              1.60    .236 No_date   28:01   51.11  n/a     .000
R0010:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A5T              1.60    .236 No_date   28:01   51.11  n/a     .000
     Major System   /    1.0 02:A5-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A5-MN            1.60    .236 No_date   28:01   51.11  n/a     .000
      {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:MH102           73.63   5.480 No_date   28:03   39.39  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:102-103         73.63   5.291 No_date   28:06   39.39  n/a     .000
      [L/S/n=  504./ .280/.013]
      {Vmax= 2.654:Dmax= 1.421}
      [Din= 1.50:Dused= 1.73}
R0010:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:102-103         73.63   5.291 No_date   28:06   39.39  n/a     .000
                    +    1.0 02:A5-MN            1.60    .236 No_date   28:01   51.11  n/a     .000
                 SUM=    1.0 01:MH103           75.23   5.462 No_date   28:05   39.64  n/a     .000
R0010:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH103           75.23   5.462 No_date   28:05   39.64  n/a     .000
      fname :MH103.0010
      remark:Total Flows at MH103
R0010:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:MH103           75.23   5.462 No_date   28:05   39.64  n/a     .000
     [RDT= 1.00] out<-   1.0 01:103-104         75.23   5.382 No_date   28:07   39.64  n/a     .000
      [L/S/n=  438./ .460/.013]
      {Vmax= 3.265:Dmax= 1.205}
      [Din= 1.65:Dused= 1.65}
R0010:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A6               1.56    .232 No_date   28:00   51.11 .790     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A5-MJ             .00    .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A6               1.56    .232 No_date   28:00   51.11  n/a     .000
                 SUM=    1.0 01:A6T              1.56    .232 No_date   28:00   51.11  n/a     .000
R0010:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A6T              1.56    .232 No_date   28:00   51.11  n/a     .000
     Major System   /    1.0 02:A6-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A6-MN            1.56    .232 No_date   28:00   51.11  n/a     .000
      {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A6-MN            1.56    .232 No_date   28:00   51.11  n/a     .000
                    +    1.0 02:103-104         75.23   5.382 No_date   28:07   39.64  n/a     .000
                    +    1.0 02:TODD_MJn        30.14   3.314 No_date   28:00   46.20  n/a     .000
                 SUM=    1.0 01:MH104          106.93   8.816 No_date   28:05   41.66  n/a     .000
R0010:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH104          106.93   8.816 No_date   28:05   41.66  n/a     .000
      fname :MH104.0010
      remark:Total Flows at MH104
R0010:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B2              12.31   1.229 No_date   28:02   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B2              12.31   1.229 No_date   28:02   41.19  n/a     .000
     Major System   /    1.0 02:B2-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B2-MN           12.31   1.029 No_date   27:58   41.28  n/a     .000
      {MjSysSto=.7604E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:B2-MN           12.31   1.029 No_date   27:58   41.28  n/a     .000
     [RDT= 1.00] out<-   1.0 01:315-333         12.31   1.019 No_date   28:12   41.28  n/a     .000
      [L/S/n=  254./ .100/.013]
      {Vmax= 1.220:Dmax=  .838}
      [Din= 1.20:Dused= 1.20}
R0010:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B3               5.59    .579 No_date   28:02   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B3               5.59    .579 No_date   28:02   41.19  n/a     .000
     Major System   /    1.0 02:B3-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B3-MN            5.59    .459 No_date   27:57   41.35  n/a     .000
      {MjSysSto=.4795E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:B3-MN            5.59    .459 No_date   27:57   41.35  n/a     .000
                    +    1.0 02:315-333         12.31   1.019 No_date   28:12   41.28  n/a     .000
                 SUM=    1.0 01:MH333           17.90   1.478 No_date   28:12   41.30  n/a     .000
R0010:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH333           17.90   1.478 No_date   28:12   41.30  n/a     .000
      fname :MH333.0010
      remark:Total Flows at MH333
R0010:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:MH333           17.90   1.478 No_date   28:12   41.30  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:333-335         17.90   1.450 No_date   28:14   41.30  n/a     .000
      [L/S/n=  251./ .100/.013]
      {Vmax= 1.300:Dmax= 1.054}
      [Din= 1.20:Dused= 1.28}
R0010:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:333-335         17.90   1.450 No_date   28:14   41.30  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:335-338         17.90   1.447 No_date   28:14   41.30  n/a     .000
      [L/S/n=  185./ .100/.013]
      {Vmax= 1.294:Dmax= 1.047}
      [Din= 1.20:Dused= 1.28}
R0010:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:335-338         17.90   1.447 No_date   28:14   41.30  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:338-340         17.90   1.418 No_date   28:15   41.30  n/a     .000
      [L/S/n=  233./ .100/.013]
      {Vmax= 1.325:Dmax=  .963}
      [Din= 1.35:Dused= 1.35}
R0010:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B4               7.60    .768 No_date   28:02   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B4               7.60    .768 No_date   28:02   41.19  n/a     .000
     Major System   /    1.0 02:B4-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B4-MN            7.60    .655 No_date   27:58   41.31  n/a     .000
      {MjSysSto=.3770E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:338-340         17.90   1.418 No_date   28:15   41.30  n/a     .000
                    +    1.0 02:B4-MN            7.60    .655 No_date   27:58   41.31  n/a     .000
                 SUM=    1.0 01:MH340           25.50   2.022 No_date   28:12   41.30  n/a     .000
R0010:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH340           25.50   2.022 No_date   28:12   41.30  n/a     .000
      fname :MH340.0010
      remark:Total Flows at MH340
R0010:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:MH340           25.50   2.022 No_date   28:12   41.30  n/a     .000
     [RDT= 1.00] out<-   1.0 01:340-104         25.50   1.986 No_date   28:12   41.30  n/a     .000
      [L/S/n=  240./ .150/.013]
      {Vmax= 1.706:Dmax=  .895}
      [Din= 1.65:Dused= 1.65}
R0010:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:340-104         25.50   1.986 No_date   28:12   41.30  n/a     .000
                    +    1.0 02:MH104          106.93   8.816 No_date   28:05   41.66  n/a     .000
                 SUM=    1.0 01:MH104T         132.43  10.636 No_date   28:05   41.59  n/a     .000
R0010:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:MH104T         132.43  10.636 No_date   28:05   41.59  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:104-105        132.43  10.007 No_date   28:06   41.59  n/a     .000
      [L/S/n=  380./ .100/.013]
      {Vmax= 2.071:Dmax= 1.952}
      {HGTH= 2.30:WDTH= 2.63}
R0010:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B5               2.20    .291 No_date   28:00   45.32 .701     .000
      [XIMP=.57:TIMP=.57]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B5               2.20    .291 No_date   28:00   45.32  n/a     .000
     Major System   /    1.0 02:B5-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B5-MN            2.20    .260 No_date   27:57   45.39  n/a     .000
      {MjSysSto=.6886E+01,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A8                .96    .151 No_date   28:00   51.11 .790     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A6-MJ             .00    .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A8                .96    .151 No_date   28:00   51.11  n/a     .000
                 SUM=    1.0 01:A8T               .96    .151 No_date   28:00   51.11  n/a     .000
R0010:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A8T               .96    .151 No_date   28:00   51.11  n/a     .000
     Major System   /    1.0 02:A8-MJ             .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A8-MN             .96    .151 No_date   28:00   51.11  n/a     .000
      {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:104-105        132.43  10.007 No_date   28:06   41.59  n/a     .000
                    +    1.0 02:B5-MN            2.20    .260 No_date   27:57   45.39  n/a     .000
                    +    1.0 02:A8-MN             .96    .151 No_date   28:00   51.11  n/a     .000
                    +    1.0 02:TODD_MN3j         .00    .000 No_date   28:00   44.90  n/a     .000
                 SUM=    1.0 01:MH105          135.59  10.343 No_date   28:05   41.72  n/a     .000
R0010:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH105          135.59  10.343 No_date   28:05   41.72  n/a     .000
      fname :MH105.0010
      remark:Total Flows at MH105
R0010:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  DIVERT HYD      ->   1.0 01:A8-MJ             .00    .000 No_date    0:00     .00  n/a     .000
           diverted <=   1.0 02:A8-MJ-JR          .00    .000 No_date    0:00     .00  n/a     .000
           diverted <=   1.0 03:A8-MJ-B6          .00    .000 No_date    0:00     .00  n/a     .000
R0010:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    DIVERT HYD      ->   1.0 01:MH105          135.59  10.343 No_date   28:05   41.72  n/a     .000
           diverted <=   1.0 02:MH105-JR        28.70   7.335 No_date   28:05   41.72  n/a     .000
           diverted <=   1.0 03:MH105-B6       106.90   3.008 No_date   28:05   41.72  n/a     .000
R0010:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B7               7.19    .792 No_date   28:01   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:B4-MJ             .00    .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:B7               7.19    .792 No_date   28:01   41.19  n/a     .000
                 SUM=    1.0 01:B7-B4MJ          7.19    .792 No_date   28:01   41.19  n/a     .000
R0010:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B7-B4MJ          7.19    .792 No_date   28:01   41.19  n/a     .000
     Major System   /    1.0 02:B7R-MJ            .00    .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B7R-MN           7.19    .629 No_date   27:55   41.31  n/a     .000
      {MjSysSto=.5641E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:B7R-MN           7.19    .629 No_date   27:55   41.31  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:360-106A         7.19    .628 No_date   28:11   41.31  n/a     .000
      [L/S/n=  167./ .100/.013]
      {Vmax= 1.089:Dmax=  .665}
      [Din= 1.05:Dused= 1.05}
R0010:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B6               3.29    .376 No_date   28:00   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
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        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B6             3.29     .376 No_date   28:00   41.19  n/a     .000
     Major System   /     1.0 02:B6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:B6-MN          3.29     .064 No_date   27:36   41.22  n/a     .000
        {MjSysSto=.3813E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:EX-LAND       32.50    3.367 No_date   28:02   41.86 .647     .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0010:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:EX-LAND       32.50    3.367 No_date   28:02   41.86  n/a     .000
     Major System   /     1.0 02:EX-LAND-MJ      .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:EX-LAND-MN    32.50    2.275 No_date   27:55   41.99  n/a     .000
        {MjSysSto=.5949E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B7R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:EX-LAND-MJ      .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:B5-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:B6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:B6-MN          3.29     .064 No_date   27:36   41.22  n/a     .000
                  +       1.0 02:A8-MJ-B6        .00     .000 No_date    0:00     .00  n/a     .000
               SUM=       1.0 01:B6-B7ExMJ      3.29     .064 No_date   27:36   41.22  n/a     .000
R0010:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B6-B7ExMJ      3.29     .064 No_date   27:36   41.22  n/a     .000
     Major System   /     1.0 02:B6R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:B6R-MN         3.29     .064 No_date   27:36   41.22  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH105-B6     106.90    3.008 No_date   28:05   41.72  n/a     .000
     [RDT= 1.00] out<-    1.0 01:105-106A     106.90    3.006 No_date   28:12   41.72  n/a     .000
        [L/S/n=  208./ .100/.013]
        {Vmax= 1.597:Dmax= 1.249}
        [Din= 1.80:Dused= 1.80}
R0010:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:360-106A       7.19     .628 No_date   28:11   41.31  n/a     .000
                  +       1.0 02:105-106A     106.90    3.006 No_date   28:12   41.72  n/a     .000
                  +       1.0 02:B6R-MN         3.29     .064 No_date   27:36   41.22  n/a     .000
                  +       1.0 02:B6R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
               SUM=       1.0 01:MH106A       117.38    3.698 No_date   28:11   41.68  n/a     .000
R0010:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH106A       117.38    3.698 No_date   28:11   41.68  n/a     .000
        fname :MH106A.0010
        remark:Total Flows at MH106A
R0010:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH106A       117.38    3.698 No_date   28:11   41.68  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:106A-106     117.38    3.659 No_date   28:06   41.68  n/a     .000
        [L/S/n=  190./ .100/.013]
        {Vmax= 1.635:Dmax= 1.487}
        [Din= 1.80:Dused= 1.81}
R0010:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A9             2.44     .365 No_date   28:00   51.11 .790     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A9             2.44     .365 No_date   28:00   51.11  n/a     .000
     Major System   /     1.0 02:A9-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A9-MN          2.44     .365 No_date   28:00   51.11  n/a     .000
R0010:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:106A-106     117.38    3.659 No_date   28:06   41.68  n/a     .000
                  +       1.0 02:A9-MN          2.44     .365 No_date   28:00   51.11  n/a     .000
               SUM=       1.0 01:MH106        119.82    3.992 No_date   28:02   41.87  n/a     .000
R0010:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH106        119.82    3.992 No_date   28:02   41.87  n/a     .000
        fname :MH106.0010
        remark:Total Flows at MH106
R0010:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH106        119.82    3.992 No_date   28:02   41.87  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:106-107      119.82    3.962 No_date   28:03   41.87  n/a     .000
        [L/S/n=  123./ .100/.013]
        {Vmax= 1.666:Dmax= 1.530}
        [Din= 1.80:Dused= 1.86}
R0010:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A10            4.14     .416 No_date   28:01   38.46 .595     .000
        [XIMP=.35:TIMP=.47]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A10            4.14     .416 No_date   28:01   38.46  n/a     .000
     Major System   /     1.0 02:A10-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A10-MN         4.14     .310 No_date   27:55   38.48  n/a     .000
        {MjSysSto=.4172E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A11           10.61    1.251 No_date   28:01   45.36 .701     .000
        [XIMP=.53:TIMP=.62]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A11           10.61    1.251 No_date   28:01   45.36  n/a     .000
     Major System   /     1.0 02:A11-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A11-MN        10.61     .993 No_date   27:56   45.38  n/a     .000
        {MjSysSto=.1016E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:106-107      119.82    3.962 No_date   28:03   41.87  n/a     .000
                  +       1.0 02:A10-MN         4.14     .310 No_date   27:55   38.48  n/a     .000
                  +       1.0 02:A11-MN        10.61     .993 No_date   27:56   45.38  n/a     .000
               SUM=       1.0 01:MH107        134.57    5.265 No_date   28:03   42.04  n/a     .000
R0010:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH107        134.57    5.265 No_date   28:03   42.04  n/a     .000
        fname :MH107.0010
        remark:Total Flows at MH107
R0010:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH107        134.57    5.265 No_date   28:03   42.04  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:107-119      134.57    5.251 No_date   28:05   42.04  n/a     .000
        [L/S/n=  114./ .120/.013]
        {Vmax= 1.912:Dmax= 1.640}
        [Din= 1.80:Dused= 2.00}
R0010:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:107-119      134.57    5.251 No_date   28:05   42.04  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:119-108      134.57    5.248 No_date   28:06   42.04  n/a     .000
        [L/S/n=   66./ .120/.013]
        {Vmax= 1.911:Dmax= 1.639}
        [Din= 1.80:Dused= 2.00}
R0010:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A12           12.29    1.385 No_date   28:01   41.19 .637     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A12           12.29    1.385 No_date   28:01   41.19  n/a     .000
     Major System   /     1.0 02:A12-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A12-MN        12.29    1.029 No_date   27:54   41.27  n/a     .000
        {MjSysSto=.1401E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A13            2.59     .368 No_date   28:01   51.11 .790     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A13            2.59     .368 No_date   28:01   51.11  n/a     .000
     Major System   /     1.0 02:A13-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A13-MN         2.59     .368 No_date   28:01   51.11  n/a     .000
R0010:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Pond-Block     2.94     .309 No_date   28:00   38.90 .601     .000
        [XIMP=.41:TIMP=.41]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:119-108      134.57    5.248 No_date   28:06   42.04  n/a     .000
                  +       1.0 02:A13-MN         2.59     .368 No_date   28:01   51.11  n/a     .000
                  +       1.0 02:A12-MN        12.29    1.029 No_date   27:54   41.27  n/a     .000
               SUM=       1.0 01:MH108        149.45    6.598 No_date   28:04   42.14  n/a     .000
R0010:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH108        149.45    6.598 No_date   28:04   42.14  n/a     .000
        fname :MH108.0010
        remark:Total Flows at MH108
R0010:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH108        149.45    6.598 No_date   28:04   42.14  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:108-116      149.45    6.590 No_date   28:05   42.14  n/a     .000
        [L/S/n=   77./ .130/.013]
        {Vmax= 2.085:Dmax= 1.759}
        [Din= 1.80:Dused= 2.14}
R0010:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:108-116      149.45    6.590 No_date   28:05   42.14  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:116-corrig   149.45    6.577 No_date   28:06   42.14  n/a     .000
        [L/S/n=   80./ .130/.013]
        {Vmax= 2.084:Dmax= 1.758}
        [Din= 1.80:Dused= 2.14}
R0010:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:116-corrig   149.45    6.577 No_date   28:06   42.14  n/a     .000
                  +       1.0 02:Pond-Block     2.94     .309 No_date   28:00   38.90  n/a     .000
               SUM=       1.0 01:Corrigan     152.39    6.779 No_date   28:05   42.08  n/a     .000
R0010:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:Corrigan     152.39    6.779 No_date   28:05   42.08  n/a     .000
        fname :Corrigan.0010
        remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0010:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Corrigan     152.39    6.779 No_date   28:05   42.08  n/a     .000
                out <=    1.0 01:Co-P         152.39    6.100 No_date   28:15   42.07  n/a     .000
           overflow <=    1.0 03:Co-P-OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1015E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:Co-P-OVF        .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:Co-P         152.39    6.100 No_date   28:15   42.07  n/a     .000
                  +       1.0 02:N_TO       54837.78   87.112 No_date   36:28   23.00  n/a     .000
                  +       1.0 02:MH105-JR      28.70    7.335 No_date   28:05   41.72  n/a     .000
                  +       1.0 02:A8-MJ-JR        .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:A9-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:A10-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:A11-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:A12-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:A13-MJ          .00     .000 No_date    0:00     .00  n/a     .000
               SUM=       1.0 01:corrig     55018.86   87.567 No_date   36:27   23.06  n/a     .000
R0010:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:corrig     55018.86   87.567 No_date   36:27   23.06  n/a     .000
        fname :corrig.0010
        remark:Total Flows at Corrigan Pond
#******************************************************************************
#     Corrigan Pond 1
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
#******************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0010:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:corrig     55018.86   87.567 No_date   36:27   23.06  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_M        55018.86   87.553 No_date   36:29   23.06  n/a     .000
        [L/S/n=  580./ .445/.045]
        {Vmax= 1.805:Dmax= 1.646}
#******************************************************************************
#     Catchment MILLS
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#******************************************************************************
R0010:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:MILLS        175.99   12.212 No_date   28:07   36.76 .568     .000
        [XIMP=.38:TIMP=.38]
        [LOSS= 2 :CN= 74.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
#******************************************************************************
#     Chapman Mills SWM Pond
#     - Rating curve obtained from CCL hydraulic modeling
#******************************************************************************
R0010:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:MILLS        175.99   12.212 No_date   28:07   36.76  n/a     .000
                out <=    1.0 01:MILL_P       175.99    4.030 No_date   28:43   36.76  n/a     .000
           overflow <=    1.0 03:MIL-OV          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2299E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_M        55018.86   87.553 No_date   36:29   23.06  n/a     .000
                  +       1.0 02:MIL-OV          .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:MILL_P       175.99    4.030 No_date   28:43   36.76  n/a     .000
               SUM=       1.0 01:SN_M       55194.85   88.022 No_date   36:28   23.10  n/a     .000
R0010:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_M       55194.85   88.022 No_date   36:28   23.10  n/a     .000
        fname :SN_M.0010
        remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0010:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_M       55194.85   88.022 No_date   36:28   23.10  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_DE       55194.85   87.590 No_date   36:50   23.10  n/a     .000
        [L/S/n= 1962./ .223/.045]
        {Vmax= 1.403:Dmax= 2.091}
#******************************************************************************
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#******************************************************************************
R0010:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:DESIRE        23.78    1.694 No_date   28:03   32.93 .509     .000
        [XIMP=.25:TIMP=.25]
        [LOSS= 2 :CN= 77.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
#******************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#******************************************************************************
R0010:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:JOCKVA       225.13   17.670 No_date   28:08   41.86 .647     .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0010:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EX-LAND-MN    32.50    2.275 No_date   27:55   41.99  n/a     .000
                  +       1.0 02:JOCKVA       225.13   17.670 No_date   28:08   41.86  n/a     .000
                  +       1.0 02:B2-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:B3-MJ           .00     .000 No_date    0:00     .00  n/a     .000
               SUM=       1.0 01:JOCKVA-TO    257.63   19.945 No_date   28:08   41.88  n/a     .000
R0010:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:JOCKVA-TO    257.63   19.945 No_date   28:08   41.88  n/a     .000
        fname :JOCKVA-TO.0010
        remark:Total Flows at KB first pond
#******************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#******************************************************************************
R0010:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO    257.63   19.945 No_date   28:08   41.88  n/a     .000
                out <=    1.0 01:JOCK_P       257.63    6.542 No_date   28:42   41.88  n/a     .000
           overflow <=    1.0 03:JO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.4673E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_DE       55194.85   87.590 No_date   36:50   23.10  n/a     .000
                  +       1.0 02:DESIRE        23.78    1.694 No_date   28:03   32.93  n/a     .000
                  +       1.0 02:JO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                  +       1.0 02:JOCK_P       257.63    6.542 No_date   28:42   41.88  n/a     .000
               SUM=       1.0 01:SN_DE      55476.26   88.294 No_date   36:48   23.19  n/a     .000
R0010:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_DE      55476.26   88.294 No_date   36:48   23.19  n/a     .000
        fname :SN_DE.0010
        remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0010:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_DE      55476.26   88.294 No_date   36:48   23.19  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N1         55476.26   88.278 No_date   36:52   23.19  n/a     .000
        [L/S/n=  563./ .967/.045]
        {Vmax= 1.802:Dmax= 1.046}
#******************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#******************************************************************************
R0010:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-2          102.94    2.957 No_date   28:20   23.57 .364     .000
        [CN= 72.0: N= 3.00: Tp=  .40]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0010:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N1         55476.26   88.278 No_date   36:52   23.19  n/a     .000
                  +       1.0 02:S-2          102.94    2.957 No_date   28:20   23.57  n/a     .000
               SUM=       1.0 01:SN_N1      55579.20   88.453 No_date   36:52   23.20  n/a     .000
R0010:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_N1      55579.20   88.453 No_date   36:52   23.20  n/a     .000
        fname :SN_N1.0010
        remark:Total Flows at Rideau River
###############################################################################
  ** END OF RUN :    24

*******************************************************************************************





 RUN#:COMMAND#
R0025:C00001-----------------------------------------------------------------------------
      START
        [TZERO =     .00 hrs on        0]
        [METOUT=   2    (1=imperial, 2=metric output)]
        [NSTORM=   1 ]
        [NRUN  = 0025 ]
#******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#******************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date         : 04-03-2021
#  Modeller     : [M M]
#  Company      : JFSAinc.
```

```
# License #   :  2549237
#****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# ------------------------------------------------------------------------
R0025:C00002------------------------------------------------------------------------------
     READ STORM
      Filename = storm 001
      Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
      [SDT=10.00:SDUR= 24.00:PTOT= 74.39]
R0025:C00003------------------------------------------------------------------------------
     MODIFY STORM
      [RFACT= 1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR= 40.00:PTOT= 74.39]
R0025:C00004------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Based onvarious calibration exercises in Onta
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=  4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0025:C00005------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax=106.76: APIavg= 65.09: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0025:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00   15.500 No_date   36:57   25.80 .347     .000
      [CN= 64.0: N= 3.00: Tp= 7.13]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0025:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_13        971.00    5.778 No_date   32:34   24.02 .323     .000
      [CN= 61.0: N= 3.00: Tp= 3.76]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    7.521 No_date   39:59   20.65 .278     .000
      [CN= 55.0: N= 3.00: Tp=11.33]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
R0025:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   14.166 No_date   32:40   31.50 .423     .000
      [CN= 72.0: N= 3.00: Tp= 3.91]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0025:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_11        500.00    7.521 No_date   29:22   27.01 .363     .000
      [CN= 66.0: N= 3.00: Tp= 1.24]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00   10.351 No_date   34:27   27.01 .363     .000
      [CN= 66.0: N= 3.00: Tp= 5.29]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0025:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   27.457 No_date   37:54   31.50 .423     .000
      [CN= 72.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0025:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   26.276 No_date   39:59   27.01 .363     .000
      [CN= 66.0: N= 3.00: Tp=11.66]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0025:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_9        1132.00   11.752 No_date   30:54   30.18 .406     .000
      [CN= 70.0: N= 3.00: Tp= 2.51]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0025:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   13.075 No_date   39:59   24.61 .331     .000
      [CN= 62.0: N= 3.00: Tp=11.32]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_8         131.00    2.266 No_date   28:57   25.20 .339     .000
      [CN= 63.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0025:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   15.333 No_date   38:34   27.01 .363     .000
      [CN= 66.0: N= 3.00: Tp= 8.42]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0025:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_7        3197.00   11.663 No_date   36:24   21.75 .292     .000
      [CN= 57.0: N= 3.00: Tp= 6.65]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0025:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_6         165.00    1.076 No_date   33:03   27.63 .371     .000
      [CN= 67.0: N= 3.00: Tp= 4.18]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0025:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    7.882 No_date   35:14   31.50 .423     .000
      [CN= 72.0: N= 3.00: Tp= 5.95]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0025:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5         224.00    6.882 No_date   28:45   35.66 .479     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0025:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   37.664 No_date   33:18   32.85 .442     .000
      [CN= 74.0: N= 3.00: Tp= 4.45]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
R0025:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00     .798 No_date   28:35   39.36 .529     .000
      [CN= 81.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0025:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00    7.480 No_date   37:50   34.24 .460     .000
      [CN= 75.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
R0025:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_4         585.00   10.942 No_date   29:56   39.36 .529     .000
      [CN= 81.0: N= 3.00: Tp= 1.75]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0025:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   14.476 No_date   30:46   38.60 .519     .000
      [CN= 80.0: N= 3.00: Tp= 2.46]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
R0025:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_2         177.00    5.438 No_date   28:45   35.66 .479     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0025:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00   13.229 No_date   31:45   39.36 .529     .000
      [CN= 81.0: N= 3.00: Tp= 3.25]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0025:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   29.508 No_date   31:30   34.94 .470     .000
      [CN= 76.0: N= 3.00: Tp= 3.03]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0025:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:JR_HW       3680.00   15.500 No_date   36:56   25.80  n/a     .000
                     +    1.0 02:SW_13        971.00    5.778 No_date   32:34   24.02  n/a     .000
                  SUM=    1.0 01:S_N13       4651.00   19.777 No_date   35:26   25.42  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0025:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00   19.777 No_date   35:26   25.42  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N13A        4651.00   15.935 No_date   39:17   25.42  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .548:Dmax= 3.659}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0025:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N13A        4651.00   15.935 No_date   39:17   25.42  n/a     .000
                     +    1.0 02:JR_GWM      3074.00    7.521 No_date   39:59   20.65  n/a     .000
                  SUM=    1.0 01:SN13A       7725.00   23.402 No_date   39:59   23.52  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0025:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   23.402 No_date   39:59   23.52  n/a     .000
                 out<=    1.0 01:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
     {MxStoUsed=.1192E+03  m3}
#
R0025:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0025:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N12         7725.00    3.675 No_date   63:05   23.52  n/a     .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .552:Dmax= 1.524}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0025:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N12         7725.00    3.675 No_date   63:05   23.52  n/a     .000
                     +    1.0 02:JR_ASH      1781.00   14.166 No_date   32:40   31.50  n/a     .000
                  SUM=    1.0 01:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
R0025:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0025:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
     [RDT= 1.00] out<-    1.0 01:Dum11       9506.00   16.007 No_date   33:02   25.02  n/a     .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .721:Dmax= 2.847}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0025:C00039-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:Dum11       9506.00   16.007 No_date   33:02   25.02  n/a     .000
                     +    1.0 02:SW_11        500.00    7.521 No_date   29:22   27.01  n/a     .000
                     +    1.0 02:NN_CK       1917.00   10.351 No_date   34:27   27.01  n/a     .000
                  SUM=    1.0 01:S_N11      11923.00   27.908 No_date   33:04   25.42  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0025:C00040-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N11      11923.00   27.908 No_date   33:04   25.42  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N10        11923.00   18.039 No_date   40:01   25.42  n/a     .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .464:Dmax= 1.329}
#
# Addition of Subwatershed 10 to Node 10
#
R0025:C00041-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N10        11923.00   18.039 No_date   40:01   25.42  n/a     .000
                     +    1.0 02:SW_10       5666.00   27.457 No_date   37:54   31.50  n/a     .000
                  SUM=    1.0 01:S_N10      17589.00   45.026 No_date   38:35   27.38  n/a     .000
R0025:C00042-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N10      17589.00   45.026 No_date   38:35   27.38  n/a     .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0025:C00043-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:S_N10      17589.00   45.026 No_date   38:35   27.38  n/a     .000
                     +    1.0 02:KG_CK       8376.00   26.276 No_date   39:59   27.01  n/a     .000
                  SUM=    1.0 01:S_N10A     25965.00   70.812 No_date   39:59   27.26  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0025:C00044-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N10A     25965.00   70.812 No_date   39:59   27.26  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N9         25965.00   69.032 No_date   39:59   27.26  n/a     .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .718:Dmax= 1.889}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0025:C00045-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N9         25965.00   69.032 No_date   39:59   27.26  n/a     .000
                     +    1.0 02:SW_9        1132.00   11.752 No_date   30:54   30.18  n/a     .000
                     +    1.0 02:NC_CK       4464.00   13.075 No_date   39:59   24.61  n/a     .000
                  SUM=    1.0 01:S_N9       31561.00   84.684 No_date   39:59   26.99  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0025:C00046-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N9       31561.00   84.684 No_date   39:59   26.99  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N8         31561.00   79.245 No_date   39:59   26.99  n/a     .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .363:Dmax= 1.743}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0025:C00047-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N8         31561.00   79.245 No_date   39:59   26.99  n/a     .000
                     +    1.0 02:SW_8         131.00    2.266 No_date   28:57   25.20  n/a     .000
                     +    1.0 02:HB_DR       3854.00   15.333 No_date   38:34   27.01  n/a     .000
                  SUM=    1.0 01:S_N8       35546.00   94.597 No_date   39:59   26.99  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0025:C00048-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N8       35546.00   94.597 No_date   39:59   26.99  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N7         35546.00   80.337 No_date   45:08   26.98  n/a     .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .226:Dmax= 2.161}
#
# Addition of Subwatershed 7 to Node 7
#
R0025:C00049-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N7         35546.00   80.337 No_date   45:08   26.98  n/a     .000
                     +    1.0 02:SW_7        3197.00   11.663 No_date   36:24   21.75  n/a     .000
                  SUM=    1.0 01:S_N7       38743.00   86.331 No_date   44:08   26.55  n/a     .000
R0025:C00050-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N7       38743.00   86.331 No_date   44:08   26.55  n/a     .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
```

```
R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S_N7         38743.00   86.331 No_date   44:08   26.55  n/a     .000
                  out <=     1.0 01:RES_RF       38743.00   42.032 No_date   60:05   26.55  n/a     .000
      {MxStoUsed=.3671E+03  m3}
R0025:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:RES_RF       38743.00   42.032 No_date   60:05   26.55  n/a     .000
        fname :H_ResRF
        remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0025:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:RES_RF       38743.00   42.032 No_date   60:05   26.55  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N6           38743.00   41.826 No_date   61:26   26.55  n/a     .000
        [L/S/n= 3056./ .082/.025]
        {Vmax=  .514:Dmax= 1.120}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0025:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N6           38743.00   41.826 No_date   61:26   26.55  n/a     .000
                     +       1.0 02:SW_6           165.00    1.076 No_date   33:03   27.63  n/a     .000
                     +       1.0 02:VG_DR         1332.00    7.882 No_date   35:14   31.50  n/a     .000
                  SUM=       1.0 01:S_N6         40240.01   41.832 No_date   61:20   26.72  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0025:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N6         40240.01   41.832 No_date   61:20   26.72  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N5           40240.01   41.717 No_date   62:14   26.72  n/a     .000
        [L/S/n= 1852./ .054/.035]
        {Vmax=  .444:Dmax= 1.222}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0025:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N5           40240.01   41.717 No_date   62:14   26.72  n/a     .000
                     +       1.0 02:SW_5           224.00    6.882 No_date   28:45   35.66  n/a     .000
                     +       1.0 02:FL_CK         4945.00   37.664 No_date   33:18   32.85  n/a     .000
                  SUM=       1.0 01:S_N5         45409.01   62.634 No_date   34:27   27.43  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0025:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N5         45409.01   62.634 No_date   34:27   27.43  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N5A          45409.01   62.487 No_date   34:43   27.43  n/a     .000
        [L/S/n=  556./ .090/.040]
        {Vmax=  .511:Dmax= 1.222}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0025:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N5A          45409.01   62.487 No_date   34:43   27.43  n/a     .000
                     +       1.0 02:SW_5A2          20.00     .798 No_date   28:35   39.36  n/a     .000
                     +       1.0 02:SW_5A1        1412.00    7.480 No_date   37:50   34.24  n/a     .000
                  SUM=       1.0 01:S_N5A        46841.01   69.334 No_date   35:01   27.64  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0025:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N5A        46841.01   69.334 No_date   35:01   27.64  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N4           46841.01   66.496 No_date   36:27   27.64  n/a     .000
        [L/S/n= 4630./ .043/.035]
        {Vmax=  .840:Dmax= 3.530}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0025:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N4           46841.01   66.496 No_date   36:27   27.64  n/a     .000
                     +       1.0 02:SW_4           585.00   10.942 No_date   29:56   39.36  n/a     .000
                     +       1.0 02:LM_CK         1021.00   14.476 No_date   30:46   38.60  n/a     .000
                  SUM=       1.0 01:S_N4         48447.00   73.819 No_date   35:41   28.02  n/a     .000
R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:S_N4         48447.00   73.819 No_date   35:41   28.02  n/a     .000
        fname :S_N4.0025
        remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N4         48447.00   73.819 No_date   35:41   28.02  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N2           48447.00   73.485 No_date   35:42   28.02  n/a     .000
        [L/S/n= 1667./ .060/.040]
        {Vmax=  .874:Dmax= 3.570}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N2           48447.00   73.485 No_date   35:42   28.02  n/a     .000
                     +       1.0 02:SW_2           177.00    5.438 No_date   28:45   35.66  n/a     .000
                     +       1.0 02:SM_DR         1122.00   13.229 No_date   31:45   39.36  n/a     .000
                     +       1.0 02:MD_DR         2737.00   29.508 No_date   31:30   34.94  n/a     .000
                  SUM=       1.0 01:S_N2         52483.00  106.109 No_date   33:07   28.64  n/a     .000
R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:S_N2         52483.00  106.109 No_date   33:07   28.64  n/a     .000
        fname :H_SN2
        remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N2         52483.00  106.109 No_date   33:07   28.64  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_416        52483.00  103.234 No_date   34:03   28.64  n/a     .000
        [L/S/n= 2327./ .050/.055]
        {Vmax=  .754:Dmax= 3.305}
#****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#****************************************************************************
R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_1a          536.42    5.154 No_date   31:16   30.13 .405     .000
        [CN= 72.0: N= 3.00: Tp= 2.79]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:S-1-Okeefe      44.93    1.029 No_date   29:07   34.14 .459     .000
        [CN= 77.0: N= 3.00: Tp= 1.05]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_416        52483.00  103.234 No_date   34:03   28.64  n/a     .000
                     +       1.0 02:SW_1a          536.42    5.154 No_date   31:16   30.13  n/a     .000
                     +       1.0 02:S-1-Okeefe      44.93    1.029 No_date   29:07   34.14  n/a     .000
                  SUM=       1.0 01:SN_416       53064.36  107.224 No_date   33:26   28.66  n/a     .000
R0025:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_416       53064.36  107.224 No_date   33:26   28.66  n/a     .000
        fname :SN_416.0025
        remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0025:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:SN_416       53064.36  107.224 No_date   33:26   28.66  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_OK         53064.36  107.100 No_date   33:50   28.66  n/a     .000
        [L/S/n=  497./ .302/.055]
        {Vmax= 1.568:Dmax= 2.811}
#****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#****************************************************************************
R0025:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-1             63.72     .937 No_date   28:58   22.21 .299     .000
        [CN= 61.0: N= 3.00: Tp=  .90]
        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
        [InterEventTime=  12.00]
R0025:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:O-1             63.72     .937 No_date   28:58   22.21  n/a     .000
      [RDT= 1.00] out<-      1.0 01:O-1R            63.72     .877 No_date   29:15   22.21  n/a     .000
        [L/S/n=  960./ .630/.043]
        {Vmax=  .829:Dmax=  .398}
R0025:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-2             28.61     .330 No_date   29:13   20.55 .276     .000
        [CN= 57.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
        [InterEventTime=  12.00]
R0025:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-4             46.94     .426 No_date   29:00   15.62 .210     .000
        [CN= 49.0: N= 3.00: Tp=  .90]
        [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
        [InterEventTime=  12.00]
R0025:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:O-1R            63.72     .877 No_date   29:15   22.21  n/a     .000
                     +       1.0 02:O-2             28.61     .330 No_date   29:13   20.55  n/a     .000
                     +       1.0 02:O-4             46.94     .426 No_date   29:00   15.62  n/a     .000
                  SUM=       1.0 01:OKF-N          139.27    1.623 No_date   29:11   19.65  n/a     .000
R0025:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:OKF-N          139.27    1.623 No_date   29:11   19.65  n/a     .000
      [RDT= 1.00] out<-      1.0 01:OKF-NR         139.27    1.620 No_date   29:14   19.65  n/a     .000
        [L/S/n=  210./ .810/.043]
        {Vmax=  .998:Dmax=  .685}
R0025:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-6             16.46     .143 No_date   28:45   13.49 .181     .000
        [CN= 43.0: N= 3.00: Tp=  .70]
        [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
        [InterEventTime=  12.00]
R0025:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:O-3             39.67    1.013 No_date   28:23   24.45 .329     .000
        [XIMP=.15:TIMP=.30]
        [LOSS= 2 :CN= 50.0]
        [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 99.77: SMAX=665.12: SK= .010]
R0025:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:O-5             60.63    2.500 No_date   28:10   28.05 .377     .000
        [XIMP=.13:TIMP=.26]
        [LOSS= 2 :CN= 61.0]
        [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 64.50: SMAX=430.01: SK= .010]
R0025:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:OKF-NR         139.27    1.620 No_date   29:14   19.65  n/a     .000
                     +       1.0 02:O-3             39.67    1.013 No_date   28:23   24.45  n/a     .000
                     +       1.0 02:O-5             60.63    2.500 No_date   28:10   28.05  n/a     .000
                     +       1.0 02:O-6             16.46     .143 No_date   28:45   13.49  n/a     .000
                  SUM=       1.0 01:PT1            256.03    4.071 No_date   28:22   21.98  n/a     .000
R0025:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-7              5.28     .078 No_date   28:37   18.08 .243     .000
        [CN= 54.0: N= 3.00: Tp=  .60]
        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
        [InterEventTime=  12.00]
R0025:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:PT1            256.03    4.071 No_date   28:22   21.98  n/a     .000
                     +       1.0 02:O-7              5.28     .078 No_date   28:37   18.08  n/a     .000
                  SUM=       1.0 01:FF             261.31    4.141 No_date   28:22   21.91  n/a     .000
R0025:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:FF             261.31    4.141 No_date   28:22   21.91  n/a     .000
      [RDT= 1.00] out<-      1.0 01:DRAIN1         261.31    4.014 No_date   28:28   21.91  n/a     .000
        [L/S/n=  302./1.000/.043]
        {Vmax=  .793:Dmax=  .719}
R0025:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D1               1.17     .078 No_date   28:12   37.38 .502     .000
        [CN= 84.0: N= 3.00: Tp=  .28]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime=  12.00]
R0025:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A1               2.50     .464 No_date   28:01   58.43 .785     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A1               2.50     .464 No_date   28:01   58.43  n/a     .000
                  out <=     1.0 01:A1-STR           2.50     .117 No_date   28:22   58.43  n/a     .000
             overflow <=     1.0 03:A1-OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.6660E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-2              .59     .091 No_date   28:00   45.54 .612     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-2              .59     .091 No_date   28:00   45.54  n/a     .000
                  out <=     1.0 01:ST2STR            .59     .052 No_date   28:07   45.54  n/a     .000
             overflow <=     1.0 03:ST2OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2899E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-8             60.55    1.147 No_date   29:04   28.63 .385     .000
        [CN= 69.0: N= 3.00: Tp= 1.00]
        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
        [InterEventTime=  12.00]
R0025:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->      1.0 02:O-8             60.55    1.147 No_date   29:04   28.63  n/a     .000
      [RDT= 1.00] out<-      1.0 01:O8PIPE          60.55    1.141 No_date   29:08   28.63  n/a     .000
        [L/S/n=  335./ .100/.013]
        {Vmax= 1.178:Dmax=  .540}
        {HGTH= 1.20:WDTH= 1.80}
R0025:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN1         261.31    4.014 No_date   28:28   21.91  n/a     .000
                     +       1.0 02:D1               1.17     .078 No_date   28:12   37.38  n/a     .000
                     +       1.0 02:A1-STR           2.50     .117 No_date   28:22   58.43  n/a     .000
                     +       1.0 02:A1-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:ST2STR            .59     .052 No_date   28:07   45.54  n/a     .000
                     +       1.0 02:ST2OVF            .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:O8PIPE          60.55    1.141 No_date   29:08   28.63  n/a     .000
                  SUM=       1.0 01:ST2-IN         326.12    5.017 No_date   28:36   23.53  n/a     .000
R0025:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A7               3.51     .635 No_date   28:01   58.43 .785     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A7               3.51     .635 No_date   28:01   58.43  n/a     .000
                  out <=     1.0 01:A7-STR           3.51     .164 No_date   28:23   58.43  n/a     .000
             overflow <=     1.0 03:A7-OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.9358E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-3              .71     .108 No_date   28:00   45.54 .612     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-3              .71     .108 No_date   28:00   45.54  n/a     .000
                  out <=     1.0 01:ST3STR            .71     .063 No_date   28:08   45.54  n/a     .000
             overflow <=     1.0 03:ST3OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3355E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:ST2-IN         326.12    5.017 No_date   28:36   23.53  n/a     .000
                     +       1.0 02:A7-STR           3.51     .164 No_date   28:23   58.43  n/a     .000
                     +       1.0 02:A7-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:ST3STR            .71     .063 No_date   28:08   45.54  n/a     .000
                     +       1.0 02:ST3OVF            .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=       1.0 01:PT2ST3         330.34    5.204 No_date   28:28   23.95  n/a     .000
R0025:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:PT2ST3         330.34    5.204 No_date   28:28   23.95  n/a     .000
      [RDT= 1.00] out<-      1.0 01:DRAIN2         330.34    4.806 No_date   29:00   23.95  n/a     .000
        [L/S/n=  592./ .230/.043]
        {Vmax=  .581:Dmax= 1.088}
R0025:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D2               2.28     .062 No_date   29:03   37.38 .502     .000
        [CN= 84.0: N= 3.00: Tp=  .99]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime=  12.00]
R0025:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A17             12.04    1.933 No_date   28:03   58.43 .785     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A17             12.04    1.933 No_date   28:03   58.43  n/a     .000
                  out <=     1.0 01:A17STR          12.04     .553 No_date   28:29   58.43  n/a     .000
             overflow <=     1.0 03:A17OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3155E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-4              .35     .055 No_date   28:00   45.54 .612     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-4              .35     .055 No_date   28:00   45.54  n/a     .000
                  out <=     1.0 01:ST4STR            .35     .031 No_date   28:07   45.54  n/a     .000
             overflow <=     1.0 03:ST4OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A18              5.30     .922 No_date   28:02   58.43 .785     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A18              5.30     .922 No_date   28:02   58.43  n/a     .000
                  out <=     1.0 01:A18STR           5.30     .247 No_date   28:25   58.43  n/a     .000
             overflow <=     1.0 03:A18OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1408E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN2         330.34    4.806 No_date   29:00   23.95  n/a     .000
                     +       1.0 02:D2               2.28     .062 No_date   29:03   37.38  n/a     .000
                     +       1.0 02:A17STR          12.04     .553 No_date   28:29   58.43  n/a     .000
                     +       1.0 02:A17OVF            .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:ST4STR            .35     .031 No_date   28:07   45.54  n/a     .000
                     +       1.0 02:ST4OVF            .00     .000 No_date    0:00     .00  n/a     .000
                     +       1.0 02:A18STR           5.30     .247 No_date   28:25   58.43  n/a     .000
                     +       1.0 02:A18OVF            .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=       1.0 01:PT3ST4         350.31    5.557 No_date   28:56   25.77  n/a     .000
R0025:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:PT3ST4         350.31    5.557 No_date   28:56   25.77  n/a     .000
      [RDT= 1.00] out<-      1.0 01:DRAIN3         350.31    5.293 No_date   29:13   25.77  n/a     .000
        [L/S/n=  525./ .230/.043]
        {Vmax=  .603:Dmax= 1.137}
R0025:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D3               2.51     .095 No_date   28:43   40.67 .547     .000
        [CN= 86.0: N= 3.00: Tp=  .73]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0025:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
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      CONTINUOUS STANDHYD   1.0 01:C1              3.41      .618 No_date    28:01    58.43 .785      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:C1              3.41      .618 No_date    28:01    58.43  n/a      .000
                 out <=     1.0 01:C1-STR          3.41      .159 No_date    28:23    58.43  n/a      .000
            overflow <=     1.0 03:C1-OVF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.9080E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:ST-5             .45      .071 No_date    28:00    45.54 .612      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:ST-5             .45      .071 No_date    28:00    45.54  n/a      .000
                 out <=     1.0 01:ST5STR           .45      .040 No_date    28:07    45.54  n/a      .000
            overflow <=     1.0 03:ST5OVF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.2455E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:DRAIN3        350.31     5.293 No_date    29:13    25.77  n/a      .000
                      +     1.0 02:D3              2.51      .095 No_date    28:43    40.67  n/a      .000
                      +     1.0 02:C1-STR          3.41      .159 No_date    28:23    58.43  n/a      .000
                      +     1.0 02:C1-OVF           .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:ST5STR           .45      .040 No_date    28:07    45.54  n/a      .000
                      +     1.0 02:ST5OVF           .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=     1.0 01:ST5-E         356.68     5.480 No_date    29:11    26.21  n/a      .000
R0025:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:STRAND          7.59      .918 No_date    28:10    57.02 .767      .000
        [XIMP=.64:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:STRAND          7.59      .918 No_date    28:10    57.02  n/a      .000
                 out <=     1.0 01:S-POND          7.59      .109 No_date    29:19    57.02  n/a      .000
            overflow <=     1.0 03:S-OVF            .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.2915E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:ST5-E         356.68     5.480 No_date    29:11    26.21  n/a      .000
                      +     1.0 02:S-POND          7.59      .109 No_date    29:19    57.02  n/a      .000
                      +     1.0 02:S-OVF            .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=     1.0 01:SSAOUT        364.27     5.589 No_date    29:11    26.85  n/a      .000
R0025:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:SSAOUT        364.27     5.589 No_date    29:11    26.85  n/a      .000
        fname :SSAOUT.0025
        remark:SSAOUT
R0025:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:Area-A         66.75     7.879 No_date    28:09    56.06 .754      .000
        [XIMP=.64:TIMP=.80]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:Area-A         66.75     7.879 No_date    28:09    56.06  n/a      .000
        fname :Area-A.0025
        remark:SMWF-A Inflow
R0025:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:Area-A         66.75     7.879 No_date    28:09    56.06  n/a      .000
                 out <=     1.0 01:SWMF-A         66.75      .788 No_date    29:28    56.05  n/a      .000
            overflow <=     1.0 03:SWMAOV           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.2643E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:SWMF-A         66.75      .788 No_date    29:28    56.05  n/a      .000
        fname :SWMF-A.0025
        remark:SMWF-A Outflow
R0025:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:SSAOUT        364.27     5.589 No_date    29:11    26.85  n/a      .000
                      +     1.0 02:SWMF-A         66.75      .788 No_date    29:28    56.05  n/a      .000
                      +     1.0 02:SWMAOV           .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=     1.0 01:PT4ST5        431.02     6.356 No_date    29:13    31.37  n/a      .000
R0025:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:C6              1.87      .354 No_date    28:01    58.43 .785      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:C6              1.87      .354 No_date    28:01    58.43  n/a      .000
                 out <=     1.0 01:C6-STR          1.87      .089 No_date    28:21    58.43  n/a      .000
            overflow <=     1.0 03:C6-OVF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.5013E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:C7              1.62      .309 No_date    28:01    58.43 .785      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:C7              1.62      .309 No_date    28:01    58.43  n/a      .000
                 out <=     1.0 01:C7-STR          1.62      .077 No_date    28:21    58.43  n/a      .000
            overflow <=     1.0 03:C7-OVF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.4331E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:ST-6             .41      .065 No_date    28:00    45.54 .612      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:ST-6             .41      .065 No_date    28:00    45.54  n/a      .000
                 out <=     1.0 01:ST6STR           .41      .036 No_date    28:07    45.54  n/a      .000
            overflow <=     1.0 03:ST6OVF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.2350E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:PT4ST5        431.02     6.356 No_date    29:13    31.37  n/a      .000
                      +     1.0 02:C6-STR          1.87      .089 No_date    28:21    58.43  n/a      .000
                      +     1.0 02:C6-OVF           .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:C7-STR          1.62      .077 No_date    28:21    58.43  n/a      .000
                      +     1.0 02:C7-OVF           .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:ST6STR           .41      .036 No_date    28:07    45.54  n/a      .000
                      +     1.0 02:ST6OVF           .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=     1.0 01:PT5ST6        434.92     6.464 No_date    29:12    31.60  n/a      .000
R0025:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:PT5ST6        434.92     6.464 No_date    29:12    31.60  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN4        434.92     6.229 No_date    29:21    31.60  n/a      .000
        [L/S/n=  324./ .100/.043]
        {Vmax=  .475:Dmax= 1.440}
R0025:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:D4              1.73      .082 No_date    28:34    43.34 .583      .000
        [CN= 88.0: N= 3.00: Tp=  .60]
        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
        [InterEventTime=  12.00]
R0025:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:Area-B         24.04     3.916 No_date    28:03    54.85 .737      .000
        [XIMP=.62:TIMP=.77]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:Area-B         24.04     3.916 No_date    28:03    54.85  n/a      .000
                 out <=     1.0 01:SWMF-B         24.04      .492 No_date    28:44    54.85  n/a      .000
            overflow <=     1.0 03:SWMBOVF          .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.8178E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:DRAIN4        434.92     6.229 No_date    29:21    31.60  n/a      .000
                      +     1.0 02:D4              1.73      .082 No_date    28:34    43.34  n/a      .000
                      +     1.0 02:SWMF-B         24.04      .492 No_date    28:44    54.85  n/a      .000
                      +     1.0 02:SWMBOVF          .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=     1.0 01:D4-EX         460.69     6.717 No_date    29:21    32.86  n/a      .000
R0025:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:D4-EX         460.69     6.717 No_date    29:21    32.86  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN5        460.69     6.598 No_date    29:35    32.86  n/a      .000
        [L/S/n=  413./ .160/.033]
        {Vmax=  .641:Dmax=  .984}
R0025:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:D5              1.90      .075 No_date    28:41    40.67 .547      .000
        [CN= 86.0: N= 3.00: Tp=  .69]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0025:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:O-13SDF         9.74      .487 No_date    28:22    38.23 .514      .000
        [CN= 81.0: N= 3.00: Tp=  .43]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0025:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:O-13SDF         9.74      .487 No_date    28:22    38.23  n/a      .000
                 out <=     1.0 01:SDF             9.74      .052 No_date    31:01    38.23  n/a      .000
            overflow <=     1.0 03:OVFSDF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.2061E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:DRAIN5        460.69     6.598 No_date    29:35    32.86  n/a      .000
                      +     1.0 02:D5              1.90      .075 No_date    28:41    40.67  n/a      .000
                      +     1.0 02:SDF             9.74      .052 No_date    31:01    38.23  n/a      .000
                   SUM=     1.0 01:PT6MC         472.33     6.689 No_date    29:35    33.00  n/a      .000
R0025:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:O-15           10.67      .668 No_date    28:13    37.06 .498      .000
        [CN= 82.0: N= 3.00: Tp=  .30]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime=  12.00]
R0025:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:PT6MC         472.33     6.689 No_date    29:35    33.00  n/a      .000
                      +     1.0 02:O-15           10.67      .668 No_date    28:13    37.06  n/a      .000
                   SUM=     1.0 01:MC            483.00     6.790 No_date    29:34    33.09  n/a      .000
R0025:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:MC            483.00     6.790 No_date    29:34    33.09  n/a      .000
       [RDT= 1.00] out<-    1.0 01:O-14Ch        483.00     6.173 No_date    30:10    33.09  n/a      .000
        [L/S/n=  845./ .100/.033]
        {Vmax=  .552:Dmax= 1.692}
R0025:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:O-14            5.00      .516 No_date    28:04    37.06 .498      .000
        [CN= 82.0: N= 3.00: Tp=  .13]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime=  12.00]
R0025:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:O-14Ch        483.00     6.173 No_date    30:10    33.09  n/a      .000
                      +     1.0 02:O-14            5.00      .516 No_date    28:04    37.06  n/a      .000
                   SUM=     1.0 01:OKEEFE        488.00     6.203 No_date    30:09    33.13  n/a      .000
#**************************************************************************
#     Okeefe Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#**************************************************************************
R0025:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:S-1-D2         18.67      .408 No_date    29:12    34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp= 1.12]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0025:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:S-1-D3          6.79      .134 No_date    29:24    34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp= 1.28]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0025:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:N_OK        53064.36   107.100 No_date    33:50    28.66  n/a      .000
                      +     1.0 02:OKEEFE        488.00     6.203 No_date    30:09    33.13  n/a      .000
                      +     1.0 02:S-1-D2         18.67      .408 No_date    29:12    34.14  n/a      .000
                      +     1.0 02:S-1-D3          6.79      .134 No_date    29:24    34.14  n/a      .000
                   SUM=     1.0 01:SN_OK       53577.82   109.311 No_date    33:24    28.71  n/a      .000
R0025:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:SN_OK       53577.82   109.311 No_date    33:24    28.71  n/a      .000
        fname :SN_OK.0025
        remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0025:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:SN_OK       53577.82   109.311 No_date    33:24    28.71  n/a      .000
       [RDT= 1.00] out<-    1.0 01:N_FO        53577.82   108.988 No_date    33:24    28.71  n/a      .000
        [L/S/n= 1183./ .076/.035]
        {Vmax= 1.184:Dmax= 3.160}
#**************************************************************************
#     Catchment FOSTER
#     - To Foster ditch (north of the Jock)
#     - Partially developed (medium density); remaining agricultural
#     - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#     - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#     - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#**************************************************************************
R0025:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:FOSTER        325.44    28.008 No_date    28:12    52.35 .704      .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
#**************************************************************************
#     Foster Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#**************************************************************************
R0025:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:FOSTER        325.44    28.008 No_date    28:12    52.35  n/a      .000
                 out <=     1.0 01:P_FOS         325.44     7.246 No_date    29:04    52.35  n/a      .000
            overflow <=     1.0 03:FO-OVF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.7008E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:P_FOS         325.44     7.246 No_date    29:04    52.35  n/a      .000
                      +     1.0 02:FO-OVF           .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=     1.0 01:FOSTER-OUT    325.44     7.246 No_date    29:04    52.35  n/a      .000
#**************************************************************************
R0025:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA     73.29     9.076 No_date    28:05    56.82 .764      .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA     73.29     9.076 No_date    28:05    56.82  n/a      .000
                 out <=     1.0 01:MS_P10         73.29     1.168 No_date    29:06    56.82  n/a      .000
            overflow <=     1.0 03:P10-OVF          .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.1685E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:S-1-FO-D2       4.94      .109 No_date    29:10    34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0025:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:FOSTER-OUT    325.44     7.246 No_date    29:04    52.35  n/a      .000
                      +     1.0 02:S-1-FO-D2       4.94      .109 No_date    29:10    34.14  n/a      .000
                   SUM=     1.0 01:980           330.38     7.355 No_date    29:04    52.08  n/a      .000
R0025:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:980           330.38     7.355 No_date    29:04    52.08  n/a      .000
        fname :980.0025
        remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0025:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:980           330.38     7.355 No_date    29:04    52.08  n/a      .000
 *     [RDT= 1.00] out<-    1.0 01:980-out       330.38     7.085 No_date    29:14    52.08  n/a      .000
        [L/S/n=  460./ .043/.035]
        {Vmax=  .641:Dmax= 1.523}
R0025:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:S-1-FO-D1       5.11      .113 No_date    29:10    34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0025:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:980-out       330.38     7.085 No_date    29:14    52.08  n/a      .000
                      +     1.0 02:S-1-FO-D1       5.11      .113 No_date    29:10    34.14  n/a      .000
                   SUM=     1.0 01:520           335.49     7.198 No_date    29:14    51.81  n/a      .000
R0025:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:520           335.49     7.198 No_date    29:14    51.81  n/a      .000
        fname :520.0025
        remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0025:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:520           335.49     7.198 No_date    29:14    51.81  n/a      .000
       [RDT= 1.00] out<-    1.0 01:520-out       335.49     7.146 No_date    29:30    51.81  n/a      .000
        [L/S/n=  860./ .587/.035]
        {Vmax= 1.480:Dmax=  .727}
R0025:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:S-1-FO-F-D     14.96      .353 No_date    29:04    34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp= 1.01]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0025:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:S-1-D8          5.27      .917 No_date    28:00    57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:S-1-A          75.88     2.541 No_date    28:36    34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp=  .62]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0025:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:W_CLAR_UND     35.65      .789 No_date    29:10    34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0025:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:N_FO        53577.82   108.988 No_date    33:24    28.71  n/a      .000
                      +     1.0 02:520-out       335.49     7.146 No_date    29:30    51.81  n/a      .000
                      +     1.0 02:MS_P10         73.29     1.168 No_date    29:06    56.82  n/a      .000
                      +     1.0 02:P10-OVF          .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:W_CLAR_UND     35.65      .789 No_date    29:10    34.14  n/a      .000
                      +     1.0 02:S-1-FO-F-D     14.96      .353 No_date    29:04    34.14  n/a      .000
                      +     1.0 02:S-1-D8          5.27      .917 No_date    28:00    57.38  n/a      .000
                      +     1.0 02:S-1-A          75.88     2.541 No_date    28:36    34.14  n/a      .000
                   SUM=     1.0 01:SN_FO       54118.36   113.668 No_date    33:24    28.90  n/a      .000
R0025:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:SN_FO       54118.36   113.668 No_date    33:24    28.90  n/a      .000
        fname :SN_FO.0025
        remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0025:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:SN_FO       54118.36   113.668 No_date    33:24    28.90  n/a      .000
 *     [RDT= 1.00] out<-    1.0 01:N_CE        54118.36   113.530 No_date    33:29    28.90  n/a      .000
        [L/S/n=  159./ .082/.035]
        {Vmax= 1.423:Dmax= 3.806}
#**************************************************************************
#     Catchment S-1
#     - To Jock River (north and south of Jock)
#     - Primarily agricultural fields; portion of sand quarry
#**************************************************************************
R0025:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:S-1-B          55.36     2.311 No_date    28:23    34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp=  .45]
```

```
          [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
          [InterEventTime=  12.00]
 #    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
 #    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
 #    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
 R0025:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:S-1-D1         21.67      .491 No_date   29:08    34.14 .459      .000
          [CN= 77.0:  N= 3.00:  Tp= 1.07]
          [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
          [InterEventTime=  12.00]
 R0025:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:S-1-D4          3.28      .073 No_date   29:10    34.14 .459      .000
          [CN= 77.0:  N= 3.00:  Tp= 1.10]
          [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
          [InterEventTime=  12.00]
 R0025:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:S-1-D5         12.84      .284 No_date   29:10    34.14 .459      .000
          [CN= 77.0:  N= 3.00:  Tp= 1.10]
          [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
          [InterEventTime=  12.00]
 R0025:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:S-1-D6          1.75      .039 No_date   29:10    34.13 .459      .000
          [CN= 77.0:  N= 3.00:  Tp= 1.10]
          [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
          [InterEventTime=  12.00]
 R0025:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:S-1-D7          2.03      .045 No_date   29:10    34.14 .459      .000
          [CN= 77.0:  N= 3.00:  Tp= 1.10]
          [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
          [InterEventTime=  12.00]
 #     Catchment W_CLAR
 #     - To West Clarke Drain (south of the Jock)
 #     - Subdivision with 43% imp. as per Barrhaven South MSS
 #     - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
 #     - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
 #**************************************************************************
 R0025:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ       1.77      .279 No_date   28:00    52.78 .709      .000
          [XIMP=.46:TIMP=.59]
          [LOSS= 2 :CN= 77.0]
          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 31.15:  SMAX=207.66:  SK= .010]
 # 5-Year + 12% Capture
 R0025:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ       1.77      .279 No_date   28:00    52.78  n/a      .000
                  out <=     1.0 01:W_CLAR_Min      1.73      .213 No_date   27:54    52.78  n/a      .000
             overflow <=     1.0 03:W_CLAR_Mj        .04      .062 No_date   28:01    52.78  n/a      .000
        {MxStoUsed=.1173E-03  m3,  TotOvfVol=.2205E-02  m3,  N-Ovf=    1,  TotDurOvf=    0.hrs}
 R0025:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40    15.305 No_date   28:04    56.82 .764      .000
          [XIMP=.60:TIMP=.65]
          [LOSS= 2 :CN= 77.0]
          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 31.15:  SMAX=207.66:  SK= .010]
 R0025:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:W_CLAR_ALL    119.40    15.305 No_date   28:04    56.82  n/a      .000
                       +     1.0 02:W_CLAR_Mj        .04      .062 No_date   28:01    52.78  n/a      .000
                    SUM=     1.0 01:W_CLAR        119.44    15.305 No_date   28:04    56.81  n/a      .000
 R0025:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:W_CLAR        119.44    15.305 No_date   28:04    56.81  n/a      .000
          fname :W_CLAR.0025
          remark:Total Flows to West Clarke
 #**************************************************************************
 #     West Clarke Pond 2
 #     - Rating curve obtained from Barrhaven South MSS modeling
 #     - Tributary Drainage Area to MSS Pond 2 = 241 ha
 #**************************************************************************
 R0025:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:W_CLAR        119.44    15.305 No_date   28:04    56.81  n/a      .000
                  out <=     1.0 01:MS_P2         119.44     7.398 No_date   28:20    56.81  n/a      .000
             overflow <=     1.0 03:P2-OVF           .00      .000 No_date    0:00      .00  n/a      .000
        {MxStoUsed=.2962E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 #**************************************************************************
 R0025:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N_CE        54118.36   113.530 No_date   33:29    28.90  n/a      .000
                       +     1.0 02:S-1-D4          3.28      .073 No_date   29:10    34.14  n/a      .000
                       +     1.0 02:S-1-D5         12.84      .284 No_date   29:10    34.14  n/a      .000
                       +     1.0 02:MS_P2         119.44     7.398 No_date   28:20    56.81  n/a      .000
                       +     1.0 02:P2-OVF           .00      .000 No_date    0:00      .00  n/a      .000
                    SUM=     1.0 01:SN_CE       54253.92   114.429 No_date   33:29    28.97  n/a      .000
 R0025:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:SN_CE       54253.92   114.429 No_date   33:29    28.97  n/a      .000
          fname :SN_CE.0025
          remark:Total Flows before Station 5737 on Jock River
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
 # JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
 # JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
 R0025:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:SN_CE       54253.92   114.429 No_date   33:29    28.97  n/a      .000
  *    [RDT= 1.00] out<-     1.0 01:5737        54253.92   109.763 No_date   35:33    28.97  n/a      .000
         [L/S/n=  270./ .018/.035]
         {Vmax=  .782:Dmax= 4.974}
 R0025:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:5737        54253.92   109.763 No_date   35:33    28.97  n/a      .000
                       +     1.0 02:S-1-D1         21.67      .491 No_date   29:08    34.14  n/a      .000
                       +     1.0 02:S-1-D6          1.75      .039 No_date   29:10    34.13  n/a      .000
                       +     1.0 02:S-1-D7          2.03      .045 No_date   29:10    34.14  n/a      .000
                    SUM=     1.0 01:5002        54279.37   109.841 No_date   35:33    28.97  n/a      .000
 R0025:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:5002        54279.37   109.841 No_date   35:33    28.97  n/a      .000
          fname :5002.0025
          remark:Total Flows before Station 5002 on Jock River
 # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
 # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
 # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
 # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
 R0025:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:5002        54279.37   109.841 No_date   35:33    28.97  n/a      .000
  *    [RDT= 1.00] out<-     1.0 01:N_WCa       54279.37   109.813 No_date   35:41    28.97  n/a      .000
         [L/S/n=  245./ .095/.035]
         {Vmax= 1.217:Dmax= 2.801}
 R0025:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:N_WCa       54279.37   109.813 No_date   35:41    28.97  n/a      .000
  *    [RDT= 1.00] out<-     1.0 01:N_WCb       54279.37   109.805 No_date   35:46    28.97  n/a      .000
         [L/S/n=  245./ .095/.035]
         {Vmax= 1.217:Dmax= 2.801}
 R0025:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:N_WCb       54279.37   109.805 No_date   35:46    28.97  n/a      .000
  *    [RDT= 1.00] out<-     1.0 01:N_WC        54279.37   109.787 No_date   35:53    28.97  n/a      .000
         [L/S/n=  245./ .095/.035]
         {Vmax= 1.217:Dmax= 2.801}
 #**************************************************************************
 # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
 #
 R0025:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:N_WC        54279.37   109.787 No_date   35:53    28.97  n/a      .000
  *    [RDT= 1.00] out<-     1.0 01:N_KB        54279.37   109.399 No_date   36:10    28.97  n/a      .000
         [L/S/n= 1020./ .050/.035]
         {Vmax= 1.078:Dmax= 3.514}
 #**************************************************************************
 #     Catchment KEN_BU
 #     - To Kennedy-Burnett SWM Facility
 #     - Outlets to Fraser-Clarke drain (north of the Jock)
 #     - Medium density residential subdivision
 #**************************************************************************
 #**************************************************************************
 #    Existing Kennedy-Burnett SWM Facility
 #     - Rating curve obtained from URTKBP
 #     - Tributary Drainage Area to Pond = 160 ha
 #**************************************************************************
 R0025:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82     4.186 No_date   28:11    29.35 .395      .000
          [XIMP=.10:TIMP=.40]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-01A         40.82     4.186 No_date   28:11    29.35  n/a      .000
       Major System   /      1.0 02:KB-01A-MJ        .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-01A-MN      40.82     3.600 No_date   28:03    29.50  n/a      .000
         {MjSysSto=.3786E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-01A-MJ        .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-01A-MN      40.82     3.600 No_date   28:03    29.50  n/a      .000
                    SUM=     1.0 01:KB-01A-S       40.82     3.600 No_date   28:03    29.50  n/a      .000
 R0025:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10     3.068 No_date   28:07    32.30 .434      .000
          [XIMP=.19:TIMP=.38]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-01B         31.10     3.068 No_date   28:07    32.30  n/a      .000
       Major System   /      1.0 02:KB-01B-MJ        .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-01B-MN      31.10     1.585 No_date   27:55    32.52  n/a      .000
         {MjSysSto=.1849E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-01B-MJ        .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-01B-MN      31.10     1.585 No_date   27:55    32.52  n/a      .000
                    SUM=     1.0 01:KB-01B-S       31.10     1.585 No_date   27:55    32.52  n/a      .000
 R0025:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78     1.868 No_date   28:04    33.51 .450      .000
          [XIMP=.20:TIMP=.41]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-01C         13.78     1.868 No_date   28:04    33.51  n/a      .000
       Major System   /      1.0 02:KB-01C-MJ        .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-01C-MN      13.78     1.350 No_date   27:57    33.69  n/a      .000
         {MjSysSto=.3173E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-01C-MJ        .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-01C-MN      13.78     1.350 No_date   27:57    33.69  n/a      .000
                    SUM=     1.0 01:KB-01C-S       13.78     1.350 No_date   27:57    33.69  n/a      .000
 R0025:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-03          84.78     9.657 No_date   28:08    32.97 .443      .000
          [XIMP=.20:TIMP=.39]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-03          84.78     9.657 No_date   28:08    32.97  n/a      .000
       Major System   /      1.0 02:KB-03-MJ         .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-03-MN       84.78     5.270 No_date   27:56    33.21  n/a      .000
         {MjSysSto=.4456E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-03-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-03-MN       84.78     5.270 No_date   27:56    33.21  n/a      .000
                    SUM=     1.0 01:KB-03-S        84.78     5.270 No_date   27:56    33.21  n/a      .000
 R0025:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-04           6.95     1.434 No_date   28:00    65.29 .878      .000
          [XIMP=.85:TIMP=.85]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-04           6.95     1.434 No_date   28:00    65.29  n/a      .000
       Major System   /      1.0 02:KB-04-MJ         .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-04-MN        6.95      .503 No_date   27:45    65.54  n/a      .000
         {MjSysSto=.7689E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-04-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-04-MN        6.95      .503 No_date   27:45    65.54  n/a      .000
                    SUM=     1.0 01:KB-04-S         6.95      .503 No_date   27:45    65.54  n/a      .000
 R0025:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-05           5.19     1.147 No_date   28:00    69.06 .928      .000
          [XIMP=.93:TIMP=.93]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-06          12.93     2.960 No_date   28:00    66.54 .895      .000
          [XIMP=.87:TIMP=.87]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-06          12.93     2.960 No_date   28:00    66.54  n/a      .000
       Major System   /      1.0 02:KB-06-MJ         .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-06-MN       12.93     2.262 No_date   28:07    66.58  n/a      .000
         {MjSysSto=.2613E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-06-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-06-MN       12.93     2.262 No_date   28:07    66.58  n/a      .000
                    SUM=     1.0 01:KB-06-S        12.93     2.262 No_date   28:07    66.58  n/a      .000
 R0025:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-11           4.03      .817 No_date   28:00    55.88 .751      .000
          [XIMP=.68:TIMP=.68]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-11           4.03      .817 No_date   28:00    55.88  n/a      .000
       Major System   /      1.0 02:KB-11-MJ         .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-11-MN        4.03      .577 No_date   27:53    55.96  n/a      .000
         {MjSysSto=.9558E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-11-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-11-MN        4.03      .577 No_date   27:53    55.96  n/a      .000
                    SUM=     1.0 01:KB-11-S         4.03      .577 No_date   27:53    55.96  n/a      .000
 R0025:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:S1              4.99     1.184 No_date   28:00    69.06 .928      .000
          [XIMP=.93:TIMP=.93]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-15           2.15      .447 No_date   28:00    62.65 .842      .000
          [XIMP=.79:TIMP=.79]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-01A-S       40.82     3.600 No_date   28:03    29.50  n/a      .000
                       +     1.0 02:KB-01B-S       31.10     1.585 No_date   27:55    32.52  n/a      .000
                       +     1.0 02:KB-01C-S       13.78     1.350 No_date   27:57    33.69  n/a      .000
                       +     1.0 02:KB-03-S        84.78     5.270 No_date   27:56    33.21  n/a      .000
                       +     1.0 02:KB-04-S         6.95      .503 No_date   27:45    65.54  n/a      .000
                       +     1.0 02:KB-05           5.19     1.147 No_date   28:00    69.06  n/a      .000
                       +     1.0 02:KB-06-S        12.93     2.262 No_date   28:07    66.58  n/a      .000
                       +     1.0 02:KB-11-S         4.03      .577 No_date   27:53    55.96  n/a      .000
                       +     1.0 02:KB-15           2.15      .447 No_date   28:00    62.65  n/a      .000
                       +     1.0 02:S1              4.99     1.184 No_date   28:00    69.06  n/a      .000
                    SUM=     1.0 01:KB-P1         206.72    17.555 No_date   28:01    38.09  n/a      .000
 R0025:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:KB-P1         206.72    17.555 No_date   28:01    38.09  n/a      .000
                  out <=     1.0 01:KB-P1R        201.26    12.438 No_date   28:05    38.09  n/a      .000
             overflow <=     1.0 03:KB-P1ovf        5.46     4.400 No_date   28:05    38.09  n/a      .000
        {MxStoUsed=.7322E+00  m3,  TotOvfVol=.2079E+00  m3,  N-Ovf=    1,  TotDurOvf=    0.hrs}
 R0025:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-P1R        201.26    12.438 No_date   28:05    38.09  n/a      .000
                       +     1.0 02:KB-P1ovf        5.46     4.400 No_date   28:05    38.09  n/a      .000
                    SUM=     1.0 01:KB-Pond1      206.72    16.838 No_date   28:05    38.09  n/a      .000
 R0025:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:KB-Pond1      206.72    16.838 No_date   28:05    38.09  n/a      .000
          fname :KB-Pond1.0025
          remark:Total Flows at KB first pond
 R0025:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-07          10.86     2.392 No_date   28:00    65.97 .887      .000
          [XIMP=.86:TIMP=.86]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-07          10.86     2.392 No_date   28:00    65.97  n/a      .000
       Major System   /      1.0 02:KB-07-MJ         .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-07-MN       10.86     2.094 No_date   27:56    66.02  n/a      .000
         {MjSysSto=.7523E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-07-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-07-MN       10.86     2.094 No_date   27:56    66.02  n/a      .000
                    SUM=     1.0 01:KB-07-S        10.86     2.094 No_date   27:56    66.02  n/a      .000
 R0025:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-08           6.61     1.292 No_date   28:00    53.97 .726      .000
          [XIMP=.64:TIMP=.64]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-08           6.61     1.292 No_date   28:00    53.97  n/a      .000
       Major System   /      1.0 02:KB-08-MJ         .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-08-MN        6.61     1.058 No_date   27:55    54.34  n/a      .000
         {MjSysSto=.6817E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-08-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-08-MN        6.61     1.058 No_date   27:55    54.34  n/a      .000
                    SUM=     1.0 01:KB-08-S         6.61     1.058 No_date   27:55    54.34  n/a      .000
 R0025:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-09           2.60      .599 No_date   28:00    65.30 .878      .000
          [XIMP=.86:TIMP=.86]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-10_1         2.37      .550 No_date   28:00    65.30 .878      .000
          [XIMP=.86:TIMP=.86]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-10_2         1.14      .266 No_date   28:00    65.30 .878      .000
          [XIMP=.86:TIMP=.86]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-12           4.86     1.059 No_date   28:00    61.90 .832      .000
          [XIMP=.79:TIMP=.79]
          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
 R0025:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-12           4.86     1.059 No_date   28:00    61.90  n/a      .000
       Major System   /      1.0 02:KB-12-MJ         .00      .000 No_date    0:00      .00  n/a      .000
       Minor System   \      1.0 03:KB-12-MN        4.86      .867 No_date   27:54    62.20  n/a      .000
         {MjSysSto=.6022E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
 R0025:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-12-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                       +     1.0 02:KB-12-MN        4.86      .867 No_date   27:54    62.20  n/a      .000
                    SUM=     1.0 01:KB-12-S         4.86      .867 No_date   27:54    62.20  n/a      .000
 R0025:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
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      CONTINUOUS STANDHYD   1.0 01:KB-13          10.19     1.930 No_date    28:00    53.97 .726      .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD       1.0 01:KB-13          10.19     1.930 No_date    28:00    53.97  n/a      .000
       Major System  /      1.0 02:KB-13-MJ         .00      .000 No_date     0:00      .00  n/a      .000
       Minor System  \      1.0 03:KB-13-MN       10.19     1.722 No_date    27:57    53.98  n/a      .000
        {MjSysSto=.4703E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:KB-13-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:KB-13-MN       10.19     1.722 No_date    27:57    53.98  n/a      .000
                    SUM=    1.0 01:KB-13-S        10.19     1.722 No_date    27:57    53.98  n/a      .000
R0025:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:KB-14           5.47     1.075 No_date    28:00    53.97 .726      .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD       1.0 01:KB-14           5.47     1.075 No_date    28:00    53.97  n/a      .000
       Major System  /      1.0 02:KB-14-MJ         .00      .000 No_date     0:00      .00  n/a      .000
       Minor System  \      1.0 03:KB-14-MN        5.47      .873 No_date    27:55    54.32  n/a      .000
        {MjSysSto=.6018E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:KB-14-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:KB-14-MN        5.47      .873 No_date    27:55    54.32  n/a      .000
                    SUM=    1.0 01:KB-14-S         5.47      .873 No_date    27:55    54.32  n/a      .000
R0025:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:KB-16_2         3.42      .649 No_date    28:01    58.24 .783      .000
         [XIMP=.71:TIMP=.71]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:KB-Pond1      206.72    16.838 No_date    28:05    38.09  n/a      .000
                       +    1.0 02:KB-07-S        10.86     2.094 No_date    27:56    66.02  n/a      .000
                       +    1.0 02:KB-08-S         6.61     1.058 No_date    27:55    54.34  n/a      .000
                       +    1.0 02:KB-09           2.60      .599 No_date    28:00    65.30  n/a      .000
                       +    1.0 02:KB-10_1         2.37      .550 No_date    28:00    65.30  n/a      .000
                       +    1.0 02:KB-10_2         1.14      .266 No_date    28:00    65.30  n/a      .000
                       +    1.0 02:KB-12-S         4.86      .867 No_date    27:54    62.20  n/a      .000
                       +    1.0 02:KB-13-S        10.19     1.722 No_date    27:57    53.98  n/a      .000
                       +    1.0 02:KB-14-S         5.47      .873 No_date    27:55    54.32  n/a      .000
                       +    1.0 02:KB-16_2         3.42      .649 No_date    28:01    58.24  n/a      .000
                    SUM=    1.0 01:KB-P2         254.24    24.423 No_date    28:05    42.08  n/a      .000
R0025:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:KB-P2         254.24    24.423 No_date    28:05    42.08  n/a      .000
                  out <=    1.0 01:KB-P2R        254.24    17.126 No_date    28:11    42.08  n/a      .000
             overflow <=    1.0 03:KB-P2ovf         .00      .000 No_date     0:00      .00  n/a      .000
       {MxStoUsed=.9755E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:KB-P2R        254.24    17.126 No_date    28:11    42.08  n/a      .000
                       +    1.0 02:KB-P2ovf         .00      .000 No_date     0:00      .00  n/a      .000
                    SUM=    1.0 01:KB-Pond2      254.24    17.126 No_date    28:11    42.08  n/a      .000
R0025:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:KB-Pond2      254.24    17.126 No_date    28:11    42.08  n/a      .000
         fname :KB-Pond2.0025
         remark:Total Flows at KB second pond
R0025:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:KB-16_1         2.80      .551 No_date    28:01    60.44 .812      .000
         [XIMP=.75:TIMP=.75]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:KB-Pond2      254.24    17.126 No_date    28:11    42.08  n/a      .000
                       +    1.0 02:KB-16_1         2.80      .551 No_date    28:01    60.44  n/a      .000
                    SUM=    1.0 01:KB-P3         257.04    17.347 No_date    28:10    42.28  n/a      .000
R0025:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:KB-P3         257.04    17.347 No_date    28:10    42.28  n/a      .000
                  out <=    1.0 01:KB-P3R         10.42      .051 No_date    17:19    42.28  n/a      .000
             overflow <=    1.0 03:KB-P3ovf      246.62    17.293 No_date    28:10    42.28  n/a      .000
       {MxStoUsed=.1993E-02  m3, TotOvfVol=.1043E+02  m3, N-Ovf=     2, TotDurOvf=    23.hrs}
R0025:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:KB-P3R         10.42      .051 No_date    17:19    42.28  n/a      .000
                       +    1.0 02:KB-P3ovf      246.62    17.293 No_date    28:10    42.28  n/a      .000
                    SUM=    1.0 01:KB-Pond3      257.04    17.344 No_date    28:10    42.28  n/a      .000
R0025:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:KB-Pond3      257.04    17.344 No_date    28:10    42.28  n/a      .000
         fname :KB-Pond3.0025
         remark:Total Flows at KB third pond
#******************************************************************************
#     EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#     - TO FRASER-CLARKE DRAIN
#******************************************************************************
R0025:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:FC-01           8.03     1.288 No_date    28:01    44.33 .596      .000
         [XIMP=.47:TIMP=.47]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD       1.0 01:FC-01           8.03     1.288 No_date    28:01    44.33  n/a      .000
       Major System  /      1.0 02:FC-01-MJ         .00      .000 No_date     0:00      .00  n/a      .000
       Minor System  \      1.0 03:FC-01-MN        8.03      .756 No_date    28:25    44.53  n/a      .000
        {MjSysSto=.2943E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:FC-01-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:FC-01-MN        8.03      .756 No_date    27:53    44.53  n/a      .000
                    SUM=    1.0 01:FC-01-S         8.03      .756 No_date    27:53    44.53  n/a      .000
R0025:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:FC-02          16.05     3.458 No_date    28:00    69.06 .928      .000
         [XIMP=.93:TIMP=.93]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD       1.0 01:FC-02          16.05     3.458 No_date    28:00    69.06  n/a      .000
       Major System  /      1.0 02:FC-02-MJ         .00      .000 No_date     0:00      .00  n/a      .000
       Minor System  \      1.0 03:FC-02-MN       16.05     1.159 No_date    27:44    69.13  n/a      .000
        {MjSysSto=.1941E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:FC-02-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:FC-02-MN       16.05     1.159 No_date    27:44    69.13  n/a      .000
                    SUM=    1.0 01:FC-02-S        16.05     1.159 No_date    27:44    69.13  n/a      .000
R0025:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:FC-03           7.37     1.375 No_date    28:00    53.47 .719      .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD       1.0 01:FC-03           7.37     1.375 No_date    28:00    53.47  n/a      .000
       Major System  /      1.0 02:FC-03-MJ         .00      .000 No_date     0:00      .00  n/a      .000
       Minor System  \      1.0 03:FC-03-MN        7.37      .358 No_date    27:43    53.66  n/a      .000
        {MjSysSto=.9407E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:FC-03-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:FC-03-MN        7.37      .358 No_date    27:43    53.66  n/a      .000
                    SUM=    1.0 01:FC-03-S         7.37      .358 No_date    27:43    53.66  n/a      .000
R0025:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:FC-04          12.87     2.308 No_date    28:01    53.47 .719      .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD       1.0 01:FC-04          12.87     2.308 No_date    28:01    53.47  n/a      .000
       Major System  /      1.0 02:FC-04-MJ         .00      .000 No_date     0:00      .00  n/a      .000
       Minor System  \      1.0 03:FC-04-MN       12.87      .741 No_date    27:45    53.74  n/a      .000
        {MjSysSto=.1387E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:FC-04-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:FC-04-MN       12.87      .741 No_date    27:45    53.74  n/a      .000
                    SUM=    1.0 01:FC-04-S        12.87      .741 No_date    27:45    53.74  n/a      .000
#******************************************************************************
#     PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#     - TO JOCK RIVER
#******************************************************************************
R0025:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:JR-01           8.24     1.515 No_date    28:00    53.47 .719      .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD       1.0 01:JR-01           8.24     1.515 No_date    28:00    53.47  n/a      .000
       Major System  /      1.0 02:JR-01-MJ         .00      .000 No_date     0:00      .00  n/a      .000
       Minor System  \      1.0 03:JR-01-MN        8.24      .563 No_date    28:50    53.74  n/a      .000
        {MjSysSto=.7433E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:JR-01-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:JR-01-MN        8.24      .563 No_date    27:45    53.74  n/a      .000
                    SUM=    1.0 01:JR-01-S         8.24      .563 No_date    27:45    53.74  n/a      .000
R0025:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:JR-02           1.59      .316 No_date    28:00    53.47 .719      .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD       1.0 01:JR-02           1.59      .316 No_date    28:00    53.47  n/a      .000
       Major System  /      1.0 02:JR-02-MJ         .00      .000 No_date     0:00      .00  n/a      .000
       Minor System  \      1.0 03:JR-02-MN        1.59      .153 No_date    27:47    53.69  n/a      .000
        {MjSysSto=.9432E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:JR-02-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:JR-02-MN        1.59      .153 No_date    27:47    53.69  n/a      .000
                    SUM=    1.0 01:JR-02-S         1.59      .153 No_date    27:47    53.69  n/a      .000
#******************************************************************************
#     Catchment FRASER
#     - To Fraser-Clarke drain (north of the Jock)
#     - Developed land with assumed 43% imp.
#     - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#     - 2020-12-17 All Fraser is undeveloped (Nashyd)
#******************************************************************************
R0025:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:FRASER-DRN     13.65      .594 No_date    28:22    34.14 .459      .000
         [CN= 77.0: N= 3.00: Tp=  .43]
         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
         [InterEventTime=  12.00]
R0025:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:FRASER-D       21.61      .681 No_date    28:40    34.14 .459      .000
         [CN= 77.0: N= 3.00: Tp=  .67]
         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
         [InterEventTime=  12.00]
R0025:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:KB-Pond3      257.04    17.344 No_date    28:10    42.28  n/a      .000
                       +    1.0 02:S-1-B          55.36     2.311 No_date    28:23    34.14  n/a      .000
                       +    1.0 02:FRASER-DRN     13.65      .594 No_date    28:22    34.14  n/a      .000
                       +    1.0 02:FRASER-D       21.61      .681 No_date    28:40    34.14  n/a      .000
                       +    1.0 02:N_KB        54279.37   109.399 No_date    36:10    28.97  n/a      .000
                       +    1.0 02:FC-01-S         8.03      .756 No_date    27:53    44.53  n/a      .000
                       +    1.0 02:FC-02-S        16.05     1.159 No_date    27:44    69.13  n/a      .000
                       +    1.0 02:FC-03-S         7.37      .358 No_date    27:43    53.66  n/a      .000
                    SUM=    1.0 01:4241        54658.48   110.084 No_date    36:06    29.06  n/a      .000
R0025:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:4241        54658.48   110.084 No_date    36:06    29.06  n/a      .000
         fname :4241.0025
         remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0025:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:4241        54658.48   110.084 No_date    36:06    29.06  n/a      .000
       [RDT= 1.00] out<-    1.0 01:4241-out    54658.48   110.145 No_date    36:03    29.06  n/a      .000
         [L/S/n=  294./ .109/.035]
         {Vmax= 1.274:Dmax= 2.271}
R0025:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:4241-out    54658.48   110.145 No_date    36:03    29.06  n/a      .000
                       +    1.0 02:FC-04-S        12.87      .741 No_date    27:45    53.74  n/a      .000
                       +    1.0 02:JR-01-S         8.24      .563 No_date    27:45    53.74  n/a      .000
                       +    1.0 02:JR-02-S         1.59      .153 No_date    27:47    53.69  n/a      .000
                    SUM=    1.0 01:SN_KB       54681.18   110.195 No_date    36:03    29.07  n/a      .000
R0025:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:SN_KB       54681.18   110.195 No_date    36:03    29.07  n/a      .000
         fname :SN_KB.0025
         remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0025:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:SN_KB       54681.18   110.195 No_date    36:03    29.07  n/a      .000
       [RDT= 1.00] out<-    1.0 01:N_TO        54681.18   110.128 No_date    36:07    29.07  n/a      .000
         [L/S/n=  608./ .247/.035]
         {Vmax= 1.714:Dmax= 1.705}
#******************************************************************************
#     Catchment Greenbank
#     - To Greenbank Drain (south of the Jock)
#     - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#     - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#******************************************************************************
R0025:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:Greenbank      36.60     5.574 No_date    28:02    58.33 .784      .000
         [XIMP=.64:TIMP=.68]
         [LOSS= 2 :CN= 77.0]
         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
         [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:Greenbank      36.60     5.574 No_date    28:02    58.33  n/a      .000
                  out <=    1.0 01:GreenB_MN      36.60     3.118 No_date    28:11    58.33  n/a      .000
             overflow <=    1.0 03:GreenB_MJ        .00      .000 No_date     0:00      .00  n/a      .000
       {MxStoUsed=.8739E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:N_TO        54681.18   110.128 No_date    36:07    29.07  n/a      .000
                       +    1.0 02:GreenB_MJ        .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:GreenB_MN      36.60     3.118 No_date    28:11    58.33  n/a      .000
                    SUM=    1.0 01:GreenB      54717.78   110.282 No_date    36:07    29.09  n/a      .000
R0025:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:GreenB      54717.78   110.282 No_date    36:07    29.09  n/a      .000
         fname :GreenB.0025
         remark:Total Flows at Greenbank Drain
#******************************************************************************
#     Catchment TODD
#     - To Todd Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#     - 2020-11-30 increase imp. based on P598(04)-11
#     - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#     - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#******************************************************************************
#     - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0025:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:TODD_MN2        2.10      .339 No_date    28:00    53.59 .720      .000
         [XIMP=.53:TIMP=.57]
         [LOSS= 2 :CN= 77.0]
         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
         [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:TODD_MN3         .12      .020 No_date    28:00    53.57 .720      .000
         [XIMP=.53:TIMP=.57]
         [LOSS= 2 :CN= 77.0]
         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
         [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:TODD_MJ        30.23     4.269 No_date    28:02    55.13 .741      .000
         [XIMP=.52:TIMP=.64]
         [LOSS= 2 :CN= 77.0]
         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
         [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:TODD_ALL      112.91    13.312 No_date    28:05    53.38 .718      .000
         [XIMP=.52:TIMP=.57]
         [LOSS= 2 :CN= 77.0]
         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
         [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:TODD_P          3.06      .535 No_date    28:00    57.01 .766      .000
         [XIMP=.63:TIMP=.63]
         [LOSS= 2 :CN= 77.0]
         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
         [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0025:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:TODD_MJ        30.23     4.269 No_date    28:02    55.13  n/a      .000
                  out <=    1.0 01:TODD_MJn       29.48     3.314 No_date    27:57    55.13  n/a      .000
             overflow <=    1.0 03:TODD_MJj         .75      .946 No_date    28:03    55.13  n/a      .000
       {MxStoUsed=.1175E-03  m3, TotOvfVol=.4153E-01  m3, N-Ovf=     1, TotDurOvf=     0.hrs}
# 5-Year + 12% Capture
R0025:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:TODD_MN2        2.10      .339 No_date    28:00    53.59  n/a      .000
                  out <=    1.0 01:TODD_MN2n       2.06      .268 No_date    27:54    53.60  n/a      .000
             overflow <=    1.0 03:TODD_MN2j        .04      .067 No_date    28:00    53.59  n/a      .000
       {MxStoUsed=.8415E-04  m3, TotOvfVol=.2217E-02  m3, N-Ovf=     1, TotDurOvf=     0.hrs}
R0025:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:TODD_MN3         .12      .020 No_date    28:00    53.58  n/a      .000
                  out <=    1.0 01:TODD_MN3n        .11      .016 No_date    27:53    53.58  n/a      .000
             overflow <=    1.0 03:TODD_MN3j        .00      .004 No_date    28:00    53.58  n/a      .000
       {MxStoUsed=.1067E-03  m3, TotOvfVol=.1192E-03  m3, N-Ovf=     1, TotDurOvf=     0.hrs}
R0025:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:A2             25.50     2.974 No_date    28:03    49.44 .665      .000
         [XIMP=.42:TIMP=.52]
         [LOSS= 2 :CN= 75.0]
         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=    .0]
         [IaRECimp=   4.00: IaRECper=   4.00]
         [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD       1.0 01:A2             25.50     2.974 No_date    28:03    49.44  n/a      .000
       Major System  /      1.0 02:A2-MJ            .00      .000 No_date     0:00      .00  n/a      .000
       Minor System  \      1.0 03:A2-MN          25.50     1.818 No_date    27:54    49.64  n/a      .000
        {MjSysSto=.8120E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0025:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:TODD_MN2n       2.06      .268 No_date    27:54    53.60  n/a      .000
                       +    1.0 02:TODD_MN3n        .11      .016 No_date    27:53    53.58  n/a      .000
                       +    1.0 02:TODD_MJj         .75      .946 No_date    28:03    55.13  n/a      .000
                       +    1.0 02:TODD_P          3.06      .535 No_date    28:00    57.01  n/a      .000
                       +    1.0 02:TODD_ALL      112.91    13.312 No_date    28:05    53.38  n/a      .000
                       +    1.0 02:W_CLAR_MJn      1.73      .213 No_date    27:54    52.78  n/a      .000
                    SUM=    1.0 01:TODD          120.62    14.962 No_date    28:03    53.48  n/a      .000
R0025:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:TODD          120.62    14.962 No_date    28:03    53.48  n/a      .000
         fname :TODD.0025
         remark:Total Flows at Todd Drain
#******************************************************************************
#     Todd Pond 3
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#******************************************************************************
R0025:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
```

```
    ROUTE RESERVOIR ->     1.0 02:TODD         120.62    14.962 No_date   28:03   53.48  n/a    .000
                out <=     1.0 01:MS_P3        120.62     9.717 No_date   28:14   53.48  n/a    .000
           overflow <=     1.0 03:P3-OVF          .00      .000 No_date    0:00     .00  n/a    .000
      {MxStoUsed=.2619E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:GreenB     54717.78   110.282 No_date   36:07   29.09  n/a    .000
                     +     1.0 02:MS_P3        120.62     9.717 No_date   28:14   53.48  n/a    .000
                     +     1.0 02:P3-OVF          .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:TODD_MN2j       .04      .067 No_date   28:00   53.59  n/a    .000
                     +     1.0 02:A2-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                  SUM=     1.0 01:SN_TO      54838.44   110.670 No_date   36:07   29.14  n/a    .000
R0025:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_TO      54838.44   110.670 No_date   36:07   29.14  n/a    .000
      fname :SN_TO.0025
      remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0025:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_TO      54838.44   110.670 No_date   36:07   29.14  n/a    .000
 *   [RDT= 1.00] out<-     1.0 01:N_TO       54838.44   110.461 No_date   36:21   29.14  n/a    .000
      [L/S/n=  280./ .050/.045]
      {Vmax=  .905:Dmax= 3.255}
R0025:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:N_TO       54838.44   110.461 No_date   36:21   29.14  n/a    .000
      fname :N_TO.0025
      remark:Total inflows at Station 2462
#******************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#******************************************************************************
R0025:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:corr1         15.87     2.535 No_date   28:01   57.01 .766    .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:corr1         15.87     2.535 No_date   28:01   57.01  n/a    .000
     Major System  /       1.0 02:corr1-MJ        .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:corr1-MN      15.87     1.818 No_date   28:15   57.37  n/a    .000
      {MjSysSto=.3150E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:corr2         12.47      .276 No_date   29:10   34.14 .459    .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0025:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A1-Corrig     15.75     2.022 No_date   28:01   49.44 .665    .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:A1-Corrig     15.75     2.022 No_date   28:01   49.44  n/a    .000
     Major System  /       1.0 02:A1-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:A1-MN         15.75     1.818 No_date   27:58   49.57  n/a    .000
      {MjSysSto=.4966E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:B1             2.77      .097 No_date   28:09   21.19 .285    .000
      [CN= 56.0: N= 3.00: Tp=  .23]
      [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
      [InterEventTime=  12.00]
R0025:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A4             1.27      .212 No_date   28:01   57.38 .771    .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:A4             1.27      .212 No_date   28:01   57.38  n/a    .000
     Major System  /       1.0 02:A4-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:A4-MN          1.27      .212 No_date   28:01   57.38  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:A1-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:A1-MN         15.75     1.818 No_date   27:58   49.57  n/a    .000
                     +     1.0 02:corr1-MJ        .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:corr1-MN      15.87     1.818 No_date   28:15   57.37  n/a    .000
                     +     1.0 02:corr2         12.47      .276 No_date   29:10   34.14  n/a    .000
                     +     1.0 02:B1             2.77      .097 No_date   28:09   21.19  n/a    .000
                     +     1.0 02:A4-MN          1.27      .212 No_date   28:01   57.38  n/a    .000
                  SUM=     1.0 01:MH101         48.13     3.979 No_date   28:02   46.72  n/a    .000
R0025:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:MH101         48.13     3.979 No_date   28:02   46.72  n/a    .000
      fname :MH101.0025
      remark:Total Flows at MH101
R0025:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:MH101         48.13     3.979 No_date   28:02   46.72  n/a    .000
 *   [RDT= 1.00] out<-     1.0 01:101-102       48.13     3.953 No_date   28:05   46.72  n/a    .000
      [L/S/n=  368./ .540/.013]
      {Vmax= 3.134:Dmax= 1.114}
      [Din= 1.05:Dused= 1.36}
R0025:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:A2-MN         25.50     1.818 No_date   27:54   49.64  n/a    .000
                     +     1.0 02:101-102       48.13     3.953 No_date   28:05   46.72  n/a    .000
                  SUM=     1.0 01:MH102         73.63     5.771 No_date   28:05   47.73  n/a    .000
R0025:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:MH102         73.63     5.771 No_date   28:05   47.73  n/a    .000
      fname :MH102.0025
      remark:Total Flows at MH102
R0025:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A5             1.60      .279 No_date   28:01   60.02 .807    .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:A4-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:A5             1.60      .279 No_date   28:01   60.02  n/a    .000
                  SUM=     1.0 01:A5T            1.60      .279 No_date   28:01   60.02  n/a    .000
R0025:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:A5T            1.60      .279 No_date   28:01   60.02  n/a    .000
     Major System  /       1.0 02:A5-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:A5-MN          1.60      .279 No_date   28:01   60.02  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:MH102         73.63     5.771 No_date   28:05   47.73  n/a    .000
 *   [RDT= 1.00] out<-     1.0 01:102-103       73.63     5.682 No_date   28:08   47.73  n/a    .000
      [L/S/n=  504./ .280/.013]
      {Vmax= 2.688:Dmax= 1.448}
      [Din= 1.50:Dused= 1.76}
R0025:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:102-103       73.63     5.682 No_date   28:08   47.73  n/a    .000
                     +     1.0 02:A5-MN          1.60      .279 No_date   28:01   60.02  n/a    .000
                  SUM=     1.0 01:MH103         75.23     5.850 No_date   28:06   47.99  n/a    .000
R0025:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:MH103         75.23     5.850 No_date   28:06   47.99  n/a    .000
      fname :MH103.0025
      remark:Total Flows at MH103
R0025:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:MH103         75.23     5.850 No_date   28:06   47.99  n/a    .000
     [RDT= 1.00] out<-     1.0 01:103-104       75.23     5.807 No_date   28:08   47.99  n/a    .000
      [L/S/n=  438./ .460/.013]
      {Vmax= 3.289:Dmax= 1.280}
      [Din= 1.65:Dused= 1.65}
R0025:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A6             1.56      .274 No_date   28:00   60.02 .807    .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:A5-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:A6             1.56      .274 No_date   28:00   60.02  n/a    .000
                  SUM=     1.0 01:A6T            1.56      .274 No_date   28:00   60.02  n/a    .000
R0025:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:A6T            1.56      .274 No_date   28:00   60.02  n/a    .000
     Major System  /       1.0 02:A6-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:A6-MN          1.56      .274 No_date   28:00   60.02  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:A6-MN          1.56      .274 No_date   28:00   60.02  n/a    .000
                     +     1.0 02:103-104       75.23     5.807 No_date   28:08   47.99  n/a    .000
                     +     1.0 02:TODD_MJn      29.48     3.314 No_date   27:57   55.13  n/a    .000
                  SUM=     1.0 01:MH104        106.27     9.269 No_date   28:06   50.14  n/a    .000
R0025:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:MH104        106.27     9.269 No_date   28:06   50.14  n/a    .000
      fname :MH104.0025
      remark:Total Flows at MH104
R0025:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:B2            12.31     1.521 No_date   28:02   49.75 .669    .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:B2            12.31     1.521 No_date   28:02   49.75  n/a    .000
     Major System  /       1.0 02:B2-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:B2-MN         12.31     1.029 No_date   27:55   49.85  n/a    .000
      {MjSysSto=.2691E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:B2-MN         12.31     1.029 No_date   27:55   49.85  n/a    .000
 *   [RDT= 1.00] out<-     1.0 01:315-333       12.31     1.029 No_date   28:24   49.85  n/a    .000
      [L/S/n=  254./ .100/.013]
      {Vmax= 1.220:Dmax=  .838}
      [Din= 1.20:Dused= 1.20}
R0025:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:B3             5.59      .715 No_date   28:02   49.75 .669    .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:B3             5.59      .715 No_date   28:02   49.75  n/a    .000
     Major System  /       1.0 02:B3-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:B3-MN          5.59      .459 No_date   27:54   49.80  n/a    .000
      {MjSysSto=.1451E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:B3-MN          5.59      .459 No_date   27:54   49.80  n/a    .000
                     +     1.0 02:315-333       12.31     1.029 No_date   28:24   49.85  n/a    .000
                  SUM=     1.0 01:MH333         17.90     1.488 No_date   28:24   49.83  n/a    .000
R0025:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:MH333         17.90     1.488 No_date   28:24   49.83  n/a    .000
      fname :MH333.0025
      remark:Total Flows at MH333
R0025:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:MH333         17.90     1.488 No_date   28:24   49.83  n/a    .000
 *   [RDT= 1.00] out<-     1.0 01:333-335       17.90     1.485 No_date   28:24   49.83  n/a    .000
      [L/S/n=  251./ .100/.013]
      {Vmax= 1.302:Dmax= 1.057}
      [Din= 1.20:Dused= 1.29}
R0025:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:333-335       17.90     1.485 No_date   28:24   49.83  n/a    .000
 *   [RDT= 1.00] out<-     1.0 01:335-338       17.90     1.490 No_date   28:26   49.83  n/a    .000
      [L/S/n=  185./ .100/.013]
      {Vmax= 1.301:Dmax= 1.056}
      [Din= 1.20:Dused= 1.29}
R0025:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:335-338       17.90     1.490 No_date   28:26   49.83  n/a    .000
     [RDT= 1.00] out<-     1.0 01:338-340       17.90     1.456 No_date   28:26   49.83  n/a    .000
      [L/S/n=  233./ .100/.013]
      {Vmax= 1.331:Dmax=  .985}
      [Din= 1.35:Dused= 1.35}
R0025:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:B4             7.60      .960 No_date   28:02   49.75 .669    .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:B4             7.60      .960 No_date   28:02   49.75  n/a    .000
     Major System  /       1.0 02:B4-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:B4-MN          7.60      .655 No_date   27:55   50.00  n/a    .000
      {MjSysSto=.1611E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:338-340       17.90     1.456 No_date   28:26   49.83  n/a    .000
                     +     1.0 02:B4-MN          7.60      .655 No_date   27:55   50.00  n/a    .000
                  SUM=     1.0 01:MH340         25.50     2.104 No_date   28:18   49.88  n/a    .000
R0025:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:MH340         25.50     2.104 No_date   28:18   49.88  n/a    .000
      fname :MH340.0025
      remark:Total Flows at MH340
R0025:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:MH340         25.50     2.104 No_date   28:18   49.88  n/a    .000
     [RDT= 1.00] out<-     1.0 01:340-104       25.50     2.086 No_date   28:18   49.88  n/a    .000
      [L/S/n=  240./ .150/.013]
      {Vmax= 1.722:Dmax=  .917}
      [Din= 1.65:Dused= 1.65}
R0025:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:340-104       25.50     2.086 No_date   28:18   49.88  n/a    .000
                     +     1.0 02:MH104        106.27     9.269 No_date   28:06   50.14  n/a    .000
                  SUM=     1.0 01:MH104T       131.77    11.233 No_date   28:08   50.09  n/a    .000
R0025:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:MH104T       131.77    11.233 No_date   28:08   50.09  n/a    .000
 *   [RDT= 1.00] out<-     1.0 01:104-105      131.77    10.846 No_date   28:08   50.09  n/a    .000
      [L/S/n=  380./ .100/.013]
      {Vmax= 2.100:Dmax= 1.992}
      {HGTH= 2.35:WDTH= 2.68}
R0025:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:B5             2.20      .346 No_date   28:00   53.85 .724    .000
      [XIMP=.57:TIMP=.57]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:B5             2.20      .346 No_date   28:00   53.85  n/a    .000
     Major System  /       1.0 02:B5-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:B5-MN          2.20      .260 No_date   27:54   53.87  n/a    .000
      {MjSysSto=.3304E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A8              .96      .177 No_date   28:00   60.02 .807    .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:A6-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:A8              .96      .177 No_date   28:00   60.02  n/a    .000
                  SUM=     1.0 01:A8T             .96      .177 No_date   28:00   60.02  n/a    .000
R0025:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:A8T             .96      .177 No_date   28:00   60.02  n/a    .000
     Major System  /       1.0 02:A8-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:A8-MN           .96      .177 No_date   28:00   60.02  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:104-105      131.77    10.846 No_date   28:08   50.09  n/a    .000
                     +     1.0 02:B5-MN          2.20      .260 No_date   27:54   53.87  n/a    .000
                     +     1.0 02:A8-MN           .96      .177 No_date   28:00   60.02  n/a    .000
                     +     1.0 02:TODD_MN3j       .00      .004 No_date   28:00   53.58  n/a    .000
                  SUM=     1.0 01:MH105        134.93    11.175 No_date   28:08   50.23  n/a    .000
R0025:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:MH105        134.93    11.175 No_date   28:08   50.23  n/a    .000
      fname :MH105.0025
      remark:Total Flows at MH105
R0025:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  DIVERT HYD      ->     1.0 01:A8-MJ           .00      .000 No_date    0:00     .00  n/a    .000
           diverted <=     1.0 02:A8-MJ-JR        .00      .000 No_date    0:00     .00  n/a    .000
           diverted <=     1.0 03:A8-MJ-B6        .00      .000 No_date    0:00     .00  n/a    .000
R0025:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    DIVERT HYD      ->     1.0 01:MH105        134.93    11.175 No_date   28:08   50.23  n/a    .000
           diverted <=     1.0 02:MH105-JR      33.95     8.167 No_date   28:08   50.23  n/a    .000
           diverted <=     1.0 03:MH105-B6     100.98     3.008 No_date   28:08   50.23  n/a    .000
R0025:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:B7             7.19      .975 No_date   28:01   49.75 .669    .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:B4-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:B7             7.19      .975 No_date   28:01   49.75  n/a    .000
                  SUM=     1.0 01:B7-B4MJ        7.19      .975 No_date   28:01   49.75  n/a    .000
R0025:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:B7-B4MJ        7.19      .975 No_date   28:01   49.75  n/a    .000
     Major System  /       1.0 02:B7R-MJ          .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:B7R-MN         7.19      .629 No_date   27:53   50.01  n/a    .000
      {MjSysSto=.1702E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:B7R-MN         7.19      .629 No_date   27:53   50.01  n/a    .000
 *   [RDT= 1.00] out<-     1.0 01:360-106A       7.19      .629 No_date   28:21   50.01  n/a    .000
      [L/S/n=  167./ .100/.013]
      {Vmax= 1.089:Dmax=  .665}
      [Din= 1.05:Dused= 1.05}
R0025:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:B6             3.29      .465 No_date   28:00   49.75 .669    .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:B6             3.29      .465 No_date   28:00   49.75  n/a    .000
     Major System  /       1.0 02:B6-MJ           .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:B6-MN          3.29      .064 No_date   27:34   49.75  n/a    .000
      {MjSysSto=.5165E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:EX-LAND       32.50     4.063 No_date   28:02   50.08 .673    .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0025:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:EX-LAND       32.50     4.063 No_date   28:02   50.08  n/a    .000
     Major System  /       1.0 02:EX-LAND-MJ      .00      .000 No_date    0:00     .00  n/a    .000
     Minor System  \       1.0 03:EX-LAND-MN    32.50     2.275 No_date   27:52   50.26  n/a    .000
      {MjSysSto=.1224E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:B7R-MJ          .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:EX-LAND-MJ      .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:B5-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:B6-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:B6-MN          3.29      .064 No_date   27:34   49.75  n/a    .000
                     +     1.0 02:A8-MJ-B6        .00      .000 No_date    0:00     .00  n/a    .000
                  SUM=     1.0 01:B6-B7ExMJ      3.29      .064 No_date   27:34   49.75  n/a    .000
R0025:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
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     COMPUTE DUALHYD        1.0 01:B6-B7ExMJ        3.29     .064 No_date   27:34   49.75  n/a     .000
      Major System   /      1.0 02:B6R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:B6R-MN           3.29     .064 No_date   27:34   49.75  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH105-B6       100.98    3.008 No_date   28:08   50.23  n/a     .000
      [RDT= 1.00] out<-     1.0 01:105-106A       100.98    3.018 No_date   28:02   50.23  n/a     .000
       [L/S/n=  208./ .100/.013]
       {Vmax= 1.597:Dmax= 1.249}
       [Din= 1.80:Dused= 1.80}
R0025:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:360-106A         7.19     .629 No_date   28:21   50.01  n/a     .000
                      +     1.0 02:105-106A       100.98    3.018 No_date   28:02   50.23  n/a     .000
                      +     1.0 02:B6R-MN           3.29     .064 No_date   27:34   49.75  n/a     .000
                      +     1.0 02:B6R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:MH106A         111.46    3.702 No_date   28:02   50.20  n/a     .000
R0025:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106A         111.46    3.702 No_date   28:02   50.20  n/a     .000
       fname :MH106A.0025
       remark:Total Flows at MH106A
R0025:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH106A         111.46    3.702 No_date   28:02   50.20  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:106A-106       111.46    3.699 No_date   28:16   50.20  n/a     .000
       [L/S/n=  190./ .100/.013]
       {Vmax= 1.635:Dmax= 1.487}
       [Din= 1.80:Dused= 1.81}
R0025:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A9               2.44     .433 No_date   28:00   60.02 .807     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A9               2.44     .433 No_date   28:00   60.02  n/a     .000
      Major System   /      1.0 02:A9-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A9-MN            2.44     .433 No_date   28:00   60.02  n/a     .000
R0025:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106A-106       111.46    3.699 No_date   28:16   50.20  n/a     .000
                      +     1.0 02:A9-MN            2.44     .433 No_date   28:00   60.02  n/a     .000
                   SUM=     1.0 01:MH106          113.90    4.090 No_date   28:01   50.41  n/a     .000
R0025:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106          113.90    4.090 No_date   28:01   50.41  n/a     .000
       fname :MH106.0025
       remark:Total Flows at MH106
R0025:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH106          113.90    4.090 No_date   28:01   50.41  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:106-107        113.90    4.067 No_date   28:03   50.41  n/a     .000
       [L/S/n=  123./ .100/.013]
       {Vmax= 1.676:Dmax= 1.544}
       [Din= 1.80:Dused= 1.88}
R0025:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A10              4.14     .526 No_date   28:01   46.81 .629     .000
       [XIMP=.35:TIMP=.47]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A10              4.14     .526 No_date   28:01   46.81  n/a     .000
      Major System   /      1.0 02:A10-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A10-MN           4.14     .310 No_date   27:52   46.90  n/a     .000
       {MjSysSto=.1196E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A11             10.61    1.511 No_date   28:01   54.09 .727     .000
       [XIMP=.53:TIMP=.62]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A11             10.61    1.511 No_date   28:01   54.09  n/a     .000
      Major System   /      1.0 02:A11-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A11-MN          10.61     .993 No_date   27:54   54.21  n/a     .000
       {MjSysSto=.2791E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106-107        113.90    4.067 No_date   28:03   50.41  n/a     .000
                      +     1.0 02:A10-MN           4.14     .310 No_date   27:52   46.90  n/a     .000
                      +     1.0 02:A11-MN          10.61     .993 No_date   27:54   54.21  n/a     .000
                   SUM=     1.0 01:MH107          128.65    5.370 No_date   28:03   50.61  n/a     .000
R0025:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH107          128.65    5.370 No_date   28:03   50.61  n/a     .000
       fname :MH107.0025
       remark:Total Flows at MH107
R0025:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH107          128.65    5.370 No_date   28:03   50.61  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:107-119        128.65    5.374 No_date   28:04   50.61  n/a     .000
       [L/S/n=  114./ .120/.013]
       {Vmax= 1.922:Dmax= 1.653}
       [Din= 1.80:Dused= 2.01}
R0025:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:107-119        128.65    5.374 No_date   28:04   50.61  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:119-108        128.65    5.354 No_date   28:04   50.61  n/a     .000
       [L/S/n=   66./ .120/.013]
       {Vmax= 1.922:Dmax= 1.653}
       [Din= 1.80:Dused= 2.01}
R0025:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A12             12.29    1.704 No_date   28:01   49.75 .669     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A12             12.29    1.704 No_date   28:01   49.75  n/a     .000
      Major System   /      1.0 02:A12-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A12-MN          12.29    1.029 No_date   27:52   49.91  n/a     .000
       {MjSysSto=.3558E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A13              2.59     .435 No_date   28:01   60.02 .807     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A13              2.59     .435 No_date   28:01   60.02  n/a     .000
      Major System   /      1.0 02:A13-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A13-MN           2.59     .435 No_date   28:01   60.02  n/a     .000
R0025:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Pond-Block       2.94     .375 No_date   28:00   47.01 .632     .000
       [XIMP=.41:TIMP=.41]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:119-108        128.65    5.354 No_date   28:04   50.61  n/a     .000
                      +     1.0 02:A13-MN           2.59     .435 No_date   28:01   60.02  n/a     .000
                      +     1.0 02:A12-MN          12.29    1.029 No_date   27:52   49.91  n/a     .000
                   SUM=     1.0 01:MH108          143.53    6.791 No_date   28:03   50.72  n/a     .000
R0025:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH108          143.53    6.791 No_date   28:03   50.72  n/a     .000
       fname :MH108.0025
       remark:Total Flows at MH108
R0025:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH108          143.53    6.791 No_date   28:03   50.72  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:108-116        143.53    6.772 No_date   28:04   50.72  n/a     .000
       [L/S/n=   77./ .130/.013]
       {Vmax= 2.100:Dmax= 1.778}
       [Din= 1.80:Dused= 2.17}
R0025:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:108-116        143.53    6.772 No_date   28:04   50.72  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:116-corrig     143.53    6.762 No_date   28:05   50.72  n/a     .000
       [L/S/n=   80./ .130/.013]
       {Vmax= 2.098:Dmax= 1.776}
       [Din= 1.80:Dused= 2.16}
R0025:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:116-corrig     143.53    6.762 No_date   28:05   50.72  n/a     .000
                      +     1.0 02:Pond-Block       2.94     .375 No_date   28:00   47.01  n/a     .000
                   SUM=     1.0 01:Corrigan       146.47    7.034 No_date   28:04   50.65  n/a     .000
R0025:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:Corrigan       146.47    7.034 No_date   28:04   50.65  n/a     .000
       fname :Corrigan.0025
       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0025:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Corrigan       146.47    7.034 No_date   28:04   50.65  n/a     .000
                 out <=     1.0 01:Co-P           146.47    6.458 No_date   28:16   50.64  n/a     .000
            overflow <=     1.0 03:Co-P-OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1034E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:Co-P-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:Co-P           146.47    6.458 No_date   28:16   50.64  n/a     .000
                      +     1.0 02:N_TO         54838.44  110.461 No_date   36:21   29.14  n/a     .000
                      +     1.0 02:MH105-JR        33.95    8.167 No_date   28:08   50.23  n/a     .000
                      +     1.0 02:A8-MJ-JR          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A9-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A10-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A11-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A12-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A13-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:corrig       55018.86  111.029 No_date   36:20   29.21  n/a     .000
R0025:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:corrig       55018.86  111.029 No_date   36:20   29.21  n/a     .000
       fname :corrig.0025
       remark:Total Flows at Corrigan Pond
#****************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#****************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0025:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:corrig       55018.86  111.029 No_date   36:20   29.21  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_M          55018.86  111.007 No_date   36:23   29.21  n/a     .000
       [L/S/n=  580./ .445/.045]
       {Vmax= 1.964:Dmax= 1.850}
#****************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#****************************************************************************
R0025:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:MILLS          175.99   15.275 No_date   28:07   44.62 .600     .000
       [XIMP=.38:TIMP=.38]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#****************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#****************************************************************************
R0025:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:MILLS          175.99   15.275 No_date   28:07   44.62  n/a     .000
                 out <=     1.0 01:MILL_P         162.60    4.050 No_date   28:16   44.62  n/a     .000
            overflow <=     1.0 03:MIL-OV          13.39    8.160 No_date   28:16   44.62  n/a     .000
      {MxStoUsed=.2310E+01  m3, TotOvfVol=.5973E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0025:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_M          55018.86  111.007 No_date   36:23   29.21  n/a     .000
                      +     1.0 02:MIL-OV          13.39    8.160 No_date   28:16   44.62  n/a     .000
                      +     1.0 02:MILL_P         162.60    4.050 No_date   28:16   44.62  n/a     .000
                   SUM=     1.0 01:SN_M         55194.86  111.576 No_date   36:23   29.26  n/a     .000
R0025:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_M         55194.86  111.576 No_date   36:23   29.26  n/a     .000
       fname :SN_M.0025
       remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0025:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:SN_M         55194.86  111.576 No_date   36:23   29.26  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_DE         55194.86  111.136 No_date   36:40   29.26  n/a     .000
       [L/S/n= 1962./ .223/.045]
       {Vmax= 1.515:Dmax= 2.337}
#****************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#****************************************************************************
R0025:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:DESIRE          23.78    2.161 No_date   28:03   40.77 .548     .000
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#****************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#****************************************************************************
R0025:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:JOCKVA         225.13   21.797 No_date   28:07   50.08 .673     .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:EX-LAND-MN      32.50    2.275 No_date   27:52   50.26  n/a     .000
                      +     1.0 02:JOCKVA         225.13   21.797 No_date   28:07   50.08  n/a     .000
                      +     1.0 02:B2-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:B3-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:JOCKVA-TO      257.63   24.072 No_date   28:07   50.10  n/a     .000
R0025:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:JOCKVA-TO      257.63   24.072 No_date   28:07   50.10  n/a     .000
       fname :JOCKVA-TO.0025
       remark:Total Flows at KB first pond
#****************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#****************************************************************************
R0025:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO      257.63   24.072 No_date   28:07   50.10  n/a     .000
                 out <=     1.0 01:JOCK_P         257.63    9.145 No_date   28:37   50.10  n/a     .000
            overflow <=     1.0 03:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5425E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_DE         55194.86  111.136 No_date   36:40   29.26  n/a     .000
                      +     1.0 02:DESIRE          23.78    2.161 No_date   28:03   40.77  n/a     .000
                      +     1.0 02:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:JOCK_P         257.63    9.145 No_date   28:37   50.10  n/a     .000
                   SUM=     1.0 01:SN_DE        55476.27  111.989 No_date   36:39   29.36  n/a     .000
R0025:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_DE        55476.27  111.989 No_date   36:39   29.36  n/a     .000
       fname :SN_DE.0025
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0025:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:SN_DE        55476.27  111.989 No_date   36:39   29.36  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N1           55476.27  111.973 No_date   36:42   29.36  n/a     .000
       [L/S/n=  563./ .967/.045]
       {Vmax= 2.009:Dmax= 1.172}
#****************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#****************************************************************************
R0025:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-2            102.94    3.971 No_date   28:20   30.13 .405     .000
       [CN= 72.0: N= 3.00: Tp=  .40]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0025:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N1           55476.27  111.973 No_date   36:42   29.36  n/a     .000
                      +     1.0 02:S-2            102.94    3.971 No_date   28:20   30.13  n/a     .000
                   SUM=     1.0 01:SN_N1        55579.21  112.199 No_date   36:41   29.36  n/a     .000
R0025:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_N1        55579.21  112.199 No_date   36:41   29.36  n/a     .000
       fname :SN_N1.0025
       remark:Total Flows at Rideau River
#############################################################################
  ** END OF RUN :   49

*********************************************************************************************





 RUN#:COMMAND#
R0050:C00001--------------------------------------------------------------------------------------
     START
       [TZERO =    .00 hrs on       0]
       [METOUT=   2   (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0050 ]
#****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#****************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [MM]
#  Company       : JFSAinc.
#  License #     :  2549237
#****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# -------------------------------------------------------------------------
R0050:C00002--------------------------------------------------------------------------------------
     READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:50 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  81.51]
R0050:C00003--------------------------------------------------------------------------------------
     MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  81.51]
R0050:C00004--------------------------------------------------------------------------------------
     DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                      THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
```

```
        Parameters for IMPERVIOUS surfaces in STANDHYD:
        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
        Parameters used in NASHYD:
        [Ia=   4.67 mm] [N= 3.00]
        Average monthly Pan Evaporation data in    (mm)
     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
        Average monthly Potential Evapotranspiration in    (mm)
     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0050:C00005---------------------------------------------------------------------------------
      COMPUTE API
        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
        {APImax=113.33: APIavg= 67.14: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00   18.440 No_date   36:55   30.33 .372     .000
        [CN= 64.0: N= 3.00: Tp= 7.13]
        [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_13        971.00    6.937 No_date   32:34   28.27 .347     .000
        [CN= 61.0: N= 3.00: Tp= 3.76]
        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    8.912 No_date   39:59   24.31 .298     .000
        [CN= 55.0: N= 3.00: Tp=11.33]
        [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
        [InterEventTime=  12.00]
R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   16.834 No_date   32:39   36.85 .452     .000
        [CN= 72.0: N= 3.00: Tp= 3.91]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_11        500.00    9.061 No_date   29:21   31.73 .389     .000
        [CN= 66.0: N= 3.00: Tp= 1.24]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00   12.342 No_date   34:26   31.73 .389     .000
        [CN= 66.0: N= 3.00: Tp= 5.29]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   32.402 No_date   37:52   36.85 .452     .000
        [CN= 72.0: N= 3.00: Tp= 8.00]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   31.024 No_date   39:59   31.73 .389     .000
        [CN= 66.0: N= 3.00: Tp=11.66]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_9        1132.00   14.039 No_date   30:53   35.35 .434     .000
        [CN= 70.0: N= 3.00: Tp= 2.51]
        [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   15.472 No_date   39:59   28.95 .355     .000
        [CN= 62.0: N= 3.00: Tp=11.32]
        [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_8         131.00    2.740 No_date   28:57   29.64 .364     .000
        [CN= 63.0: N= 3.00: Tp=  .90]
        [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   18.180 No_date   38:32   31.73 .389     .000
        [CN= 66.0: N= 3.00: Tp= 8.42]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_7        3197.00   13.937 No_date   36:23   25.61 .314     .000
        [CN= 57.0: N= 3.00: Tp= 6.65]
        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_6         165.00    1.285 No_date   33:02   32.44 .398     .000
        [CN= 67.0: N= 3.00: Tp= 4.18]
        [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    9.332 No_date   35:12   36.85 .452     .000
        [CN= 72.0: N= 3.00: Tp= 5.95]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5         224.00    8.187 No_date   28:45   41.51 .509     .000
        [CN= 77.0: N= 3.00: Tp=  .75]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   44.623 No_date   33:18   38.37 .471     .000
        [CN= 74.0: N= 3.00: Tp= 4.45]
        [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
        [InterEventTime=  12.00]
R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00     .943 No_date   28:35   45.60 .560     .000
        [CN= 81.0: N= 3.00: Tp=  .62]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00    8.794 No_date   37:48   39.93 .490     .000
        [CN= 75.0: N= 3.00: Tp= 8.00]
        [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
        [InterEventTime=  12.00]
R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_4         585.00   12.896 No_date   29:55   45.60 .560     .000
        [CN= 81.0: N= 3.00: Tp= 1.75]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   17.059 No_date   30:46   44.77 .549     .000
        [CN= 80.0: N= 3.00: Tp= 2.46]
        [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
        [InterEventTime=  12.00]
R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_2         177.00    6.469 No_date   28:45   41.51 .509     .000
        [CN= 77.0: N= 3.00: Tp=  .75]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00   15.544 No_date   31:43   45.60 .560     .000
        [CN= 81.0: N= 3.00: Tp= 3.25]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   34.946 No_date   31:29   40.72 .500     .000
        [CN= 76.0: N= 3.00: Tp= 3.03]
        [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
        [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR_HW       3680.00   18.440 No_date   36:55   30.33  n/a     .000
                   +       1.0 02:SW_13        971.00    6.937 No_date   32:34   28.27  n/a     .000
```

```
                SUM=       1.0 01:S_N13       4651.00   23.559 No_date   35:24   29.90  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00   23.559 No_date   35:24   29.90  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N13A        4651.00   19.136 No_date   39:06   29.90  n/a     .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .574:Dmax= 3.920}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N13A        4651.00   19.136 No_date   39:06   29.90  n/a     .000
                   +       1.0 02:JR_GWM      3074.00    8.912 No_date   39:59   24.31  n/a     .000
                SUM=       1.0 01:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
                  out <=   1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
      {MxStoUsed=.1481E+03  m3}
#
R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .556:Dmax= 1.541}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
                   +       1.0 02:JR_ASH      1781.00   16.834 No_date   32:39   36.85  n/a     .000
                SUM=       1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
      [RDT= 1.00] out<-    1.0 01:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .751:Dmax= 3.029}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
                   +       1.0 02:SW_11        500.00    9.061 No_date   29:21   31.73  n/a     .000
                   +       1.0 02:NN_CK       1917.00   12.342 No_date   34:26   31.73  n/a     .000
                SUM=       1.0 01:S_N11      11923.00   32.851 No_date   33:00   29.87  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N11      11923.00   32.851 No_date   33:00   29.87  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N10        11923.00   20.490 No_date   40:02   29.87  n/a     .000
       [L/S/n=14028./ .157/.040]
       {Vmax=  .474:Dmax= 1.423}
#
# Addition of Subwatershed 10 to Node 10
#
R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N10        11923.00   20.490 No_date   40:02   29.87  n/a     .000
                   +       1.0 02:SW_10       5666.00   32.402 No_date   37:52   36.85  n/a     .000
                SUM=       1.0 01:S_N10      17589.00   52.600 No_date   38:19   32.12  n/a     .000
R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N10      17589.00   52.600 No_date   38:19   32.12  n/a     .000
       fname :H_SN10
       remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S_N10      17589.00   52.600 No_date   38:19   32.12  n/a     .000
                   +       1.0 02:KG_CK       8376.00   31.024 No_date   39:59   31.73  n/a     .000
                SUM=       1.0 01:S_N10A     25965.00   82.746 No_date   39:45   31.99  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N10A     25965.00   82.746 No_date   39:45   31.99  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N9         25965.00   80.980 No_date   39:59   31.99  n/a     .000
       [L/S/n= 3982./ .075/.040]
       {Vmax=  .744:Dmax= 2.015}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N9         25965.00   80.980 No_date   39:59   31.99  n/a     .000
                   +       1.0 02:SW_9        1132.00   14.039 No_date   30:53   35.35  n/a     .000
                   +       1.0 02:NC_CK       4464.00   15.472 No_date   39:59   28.95  n/a     .000
                SUM=       1.0 01:S_N9       31561.00   99.424 No_date   39:59   31.68  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N9       31561.00   99.424 No_date   39:59   31.68  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N8         31561.00   93.665 No_date   39:59   31.68  n/a     .000
       [L/S/n= 2269./ .088/.045]
       {Vmax=  .367:Dmax= 1.834}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N8         31561.00   93.665 No_date   39:59   31.68  n/a     .000
                   +       1.0 02:SW_8         131.00    2.740 No_date   28:57   29.64  n/a     .000
                   +       1.0 02:HB_DR       3854.00   18.180 No_date   38:32   31.73  n/a     .000
                SUM=       1.0 01:S_N8       35546.00  111.843 No_date   39:59   31.68  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N8       35546.00  111.843 No_date   39:59   31.68  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N7         35546.00   95.475 No_date   44:55   31.68  n/a     .000
       [L/S/n= 3750./ .053/.070]
       {Vmax=  .231:Dmax= 2.290}
#
# Addition of Subwatershed 7 to Node 7
#
R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N7         35546.00   95.475 No_date   44:55   31.68  n/a     .000
                   +       1.0 02:SW_7        3197.00   13.937 No_date   36:23   25.61  n/a     .000
                SUM=       1.0 01:S_N7       38743.00  102.892 No_date   43:46   31.18  n/a     .000
R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N7       38743.00  102.892 No_date   43:46   31.18  n/a     .000
       fname :H_SN7
       remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S_N7       38743.00  102.892 No_date   43:46   31.18  n/a     .000
                  out <=   1.0 01:RES_RF     38743.00   52.029 No_date   59:07   31.18  n/a     .000
      {MxStoUsed=.4394E+03  m3}
R0050:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:RES_RF     38743.00   52.029 No_date   59:07   31.18  n/a     .000
       fname :H_ResRF
       remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0050:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:RES_RF     38743.00   52.029 No_date   59:07   31.18  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N6         38743.00   51.784 No_date   60:27   31.18  n/a     .000
       [L/S/n= 3056./ .082/.025]
       {Vmax=  .538:Dmax= 1.253}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0050:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N6         38743.00   51.784 No_date   60:27   31.18  n/a     .000
                   +       1.0 02:SW_6         165.00    1.285 No_date   33:02   32.44  n/a     .000
                   +       1.0 02:VG_DR       1332.00    9.332 No_date   35:12   36.85  n/a     .000
                SUM=       1.0 01:S_N6       40240.01   51.810 No_date   60:20   31.37  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0050:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N6       40240.01   51.810 No_date   60:20   31.37  n/a     .000
```

```
       [RDT= 1.00] out<-     1.0 01:N5          40240.01   51.693 No_date   61:06   31.37  n/a     .000
        [L/S/n= 1852./ .054/.035]
        {Vmax=  .469:Dmax= 1.351}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0050:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N5          40240.01   51.693 No_date   61:06   31.37  n/a     .000
                      +      1.0 02:SW_5          224.00    8.187 No_date   28:45   41.51  n/a     .000
                      +      1.0 02:FL_CK        4945.00   44.623 No_date   33:18   38.37  n/a     .000
                   SUM=      1.0 01:S_N5        45409.01   71.514 No_date   34:20   32.18  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0050:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N5        45409.01   71.514 No_date   34:20   32.18  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N5A         45409.01   71.311 No_date   34:15   32.18  n/a     .000
        [L/S/n=  556./ .090/.040]
        {Vmax=  .530:Dmax= 1.290}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0050:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N5A         45409.01   71.311 No_date   34:15   32.18  n/a     .000
                      +      1.0 02:SW_5A2         20.00     .943 No_date   28:35   45.60  n/a     .000
                      +      1.0 02:SW_5A1       1412.00    8.794 No_date   37:48   39.93  n/a     .000
                   SUM=      1.0 01:S_N5A       46841.01   79.247 No_date   34:46   32.42  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0050:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N5A       46841.01   79.247 No_date   34:46   32.42  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N4          46841.01   75.833 No_date   36:02   32.42  n/a     .000
        [L/S/n= 4630./ .043/.035]
        {Vmax=  .874:Dmax= 3.702}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0050:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N4          46841.01   75.833 No_date   36:02   32.42  n/a     .000
                      +      1.0 02:SW_4          585.00   12.896 No_date   29:55   45.60  n/a     .000
                      +      1.0 02:LM_CK        1021.00   17.059 No_date   30:46   44.77  n/a     .000
                   SUM=      1.0 01:S_N4        48447.00   84.908 No_date   35:20   32.84  n/a     .000
R0050:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:S_N4        48447.00   84.908 No_date   35:20   32.84  n/a     .000
        fname :S_N4.0050
        remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0050:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N4        48447.00   84.908 No_date   35:20   32.84  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N2          48447.00   84.582 No_date   35:30   32.84  n/a     .000
        [L/S/n= 1667./ .060/.040]
        {Vmax=  .909:Dmax= 3.749}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0050:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N2          48447.00   84.582 No_date   35:30   32.84  n/a     .000
                      +      1.0 02:SW_2          177.00    6.469 No_date   28:45   41.51  n/a     .000
                      +      1.0 02:SM_DR        1122.00   15.544 No_date   31:43   45.60  n/a     .000
                      +      1.0 02:MO_DR        2737.00   34.946 No_date   31:29   40.72  n/a     .000
                   SUM=      1.0 01:S_N2        52483.00  124.249 No_date   32:52   33.56  n/a     .000
R0050:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:S_N2        52483.00  124.249 No_date   32:52   33.56  n/a     .000
        fname :H_SN2
        remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#*****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0050:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N2        52483.00  124.249 No_date   32:52   33.56  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_416       52483.00  120.589 No_date   33:57   33.56  n/a     .000
        [L/S/n= 2327./ .050/.055]
        {Vmax=  .781:Dmax= 3.561}
#*****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#*****************************************************************************
R0050:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_1a         536.42    6.175 No_date   31:15   35.39 .434     .000
        [CN= 72.0: N= 3.00: Tp= 2.79]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0050:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:S-1-Okeefe     44.93    1.231 No_date   29:06   39.91 .490     .000
        [CN= 77.0: N= 3.00: Tp= 1.05]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0050:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_416       52483.00  120.589 No_date   33:57   33.56  n/a     .000
                      +      1.0 02:SW_1a         536.42    6.175 No_date   31:15   35.39  n/a     .000
                      +      1.0 02:S-1-Okeefe     44.93    1.231 No_date   29:06   39.91  n/a     .000
                   SUM=      1.0 01:SN_416      53064.36  125.484 No_date   33:19   33.58  n/a     .000
R0050:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_416      53064.36  125.484 No_date   33:19   33.58  n/a     .000
        fname :SN_416.0050
        remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0050:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:SN_416      53064.36  125.484 No_date   33:19   33.58  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_OK        53064.36  125.374 No_date   33:43   33.58  n/a     .000
        [L/S/n=  497./ .302/.055]
        {Vmax= 1.649:Dmax= 3.038}
#*****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#*****************************************************************************
R0050:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-1            63.72    1.147 No_date   28:58   26.31 .323     .000
        [CN= 61.0: N= 3.00: Tp=  .90]
        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
        [InterEventTime=  12.00]
R0050:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:O-1            63.72    1.147 No_date   28:58   26.31  n/a     .000
      [RDT= 1.00] out<-      1.0 01:O-1R           63.72    1.084 No_date   29:14   26.31  n/a     .000
        [L/S/n=  960./ .630/.043]
        {Vmax=  .880:Dmax=  .445}
R0050:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-2            28.61     .404 No_date   29:13   24.30 .298     .000
        [CN= 57.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
        [InterEventTime=  12.00]
R0050:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-4            46.94     .531 No_date   29:00   18.55 .228     .000
        [CN= 49.0: N= 3.00: Tp=  .90]
        [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
        [InterEventTime=  12.00]
R0050:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:O-1R           63.72    1.084 No_date   29:14   26.31  n/a     .000
                      +      1.0 02:O-2            28.61     .404 No_date   29:13   24.30  n/a     .000
                      +      1.0 02:O-4            46.94     .531 No_date   29:00   18.55  n/a     .000
                   SUM=      1.0 01:OKF-N         139.27    2.005 No_date   29:11   23.28  n/a     .000
R0050:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:OKF-N         139.27    2.005 No_date   29:11   23.28  n/a     .000
      [RDT= 1.00] out<-      1.0 01:OKF-NR        139.27    2.004 No_date   29:13   23.28  n/a     .000
        [L/S/n=  210./ .810/.043]
        {Vmax= 1.081:Dmax=  .751}
R0050:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-6            16.46     .179 No_date   28:45   15.94 .196     .000
        [CN= 43.0: N= 3.00: Tp=  .70]
        [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
        [InterEventTime=  12.00]
R0050:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:O-3            39.67    1.212 No_date   28:22   28.54 .350     .000
        [XIMP=.15:TIMP=.30]
        [LOSS= 2 :CN= 50.0]
        [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 99.77: SMAX=665.12: SK= .010]
R0050:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:O-5            60.63    3.085 No_date   28:10   32.89 .403     .000
        [XIMP=.13:TIMP=.26]
        [LOSS= 2 :CN= 61.0]
        [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 64.50: SMAX=430.01: SK= .010]
R0050:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:OKF-NR        139.27    2.004 No_date   29:13   23.28  n/a     .000
                      +      1.0 02:O-3            39.67    1.212 No_date   28:22   28.54  n/a     .000
                      +      1.0 02:O-5            60.63    3.085 No_date   28:10   32.89  n/a     .000
                      +      1.0 02:O-6            16.46     .179 No_date   28:45   15.94  n/a     .000
                   SUM=      1.0 01:PT1           256.03    4.968 No_date   28:20   25.90  n/a     .000
R0050:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-7             5.28     .096 No_date   28:37   21.46 .263     .000
        [CN= 54.0: N= 3.00: Tp=  .60]
        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
        [InterEventTime=  12.00]
R0050:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:PT1           256.03    4.968 No_date   28:20   25.90  n/a     .000
                      +      1.0 02:O-7             5.28     .096 No_date   28:37   21.46  n/a     .000
                   SUM=      1.0 01:FF            261.31    5.051 No_date   28:20   25.81  n/a     .000
R0050:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:FF            261.31    5.051 No_date   28:20   25.81  n/a     .000
      [RDT= 1.00] out<-      1.0 01:DRAIN1        261.31    4.883 No_date   28:25   25.81  n/a     .000
        [L/S/n=  302./1.000/.043]
        {Vmax=  .822:Dmax=  .759}
R0050:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D1              1.17     .094 No_date   28:12   43.70 .536     .000
        [CN= 84.0: N= 3.00: Tp=  .28]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime=  12.00]
R0050:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A1              2.50     .517 No_date   28:01   64.42 .790     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A1              2.50     .517 No_date   28:01   64.42  n/a     .000
                 out <=      1.0 01:A1-STR          2.50     .146 No_date   28:19   64.42  n/a     .000
            overflow <=      1.0 03:A1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.7243E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-2             .59     .103 No_date   28:00   50.67 .622     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-2             .59     .103 No_date   28:00   50.67  n/a     .000
                 out <=      1.0 01:ST2STR           .59     .052 No_date   28:11   50.67  n/a     .000
            overflow <=      1.0 03:ST2OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3952E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-8            60.55    1.383 No_date   29:04   33.66 .413     .000
        [CN= 69.0: N= 3.00: Tp= 1.00]
        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
        [InterEventTime=  12.00]
R0050:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->      1.0 02:O-8            60.55    1.383 No_date   29:04   33.66  n/a     .000
      [RDT= 1.00] out<-      1.0 01:O8PIPE         60.55    1.376 No_date   29:07   33.66  n/a     .000
        [L/S/n=  335./ .100/.013]
        {Vmax= 1.244:Dmax=  .617}
        {HGTH= 1.20:WDTH= 1.80}
R0050:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN1        261.31    4.883 No_date   28:25   25.81  n/a     .000
                      +      1.0 02:D1              1.17     .094 No_date   28:12   43.70  n/a     .000
                      +      1.0 02:A1-STR          2.50     .146 No_date   28:19   64.42  n/a     .000
                      +      1.0 02:A1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:ST2STR           .59     .052 No_date   28:11   50.67  n/a     .000
                      +      1.0 02:ST2OVF           .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:O8PIPE         60.55    1.376 No_date   29:07   33.66  n/a     .000
                   SUM=      1.0 01:ST2-IN        326.12    6.061 No_date   28:35   27.67  n/a     .000
R0050:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A7              3.51     .704 No_date   28:01   64.42 .790     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A7              3.51     .704 No_date   28:01   64.42  n/a     .000
                 out <=      1.0 01:A7-STR          3.51     .199 No_date   28:21   64.42  n/a     .000
            overflow <=      1.0 03:A7-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1019E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-3             .71     .123 No_date   28:00   50.67 .622     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-3             .71     .123 No_date   28:00   50.67  n/a     .000
                 out <=      1.0 01:ST3STR           .71     .063 No_date   28:11   50.67  n/a     .000
            overflow <=      1.0 03:ST3OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4527E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:ST2-IN        326.12    6.061 No_date   28:35   27.67  n/a     .000
                      +      1.0 02:A7-STR          3.51     .199 No_date   28:21   64.42  n/a     .000
                      +      1.0 02:A7-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:ST3STR           .71     .063 No_date   28:11   50.67  n/a     .000
                      +      1.0 02:ST3OVF           .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=      1.0 01:PT2ST3        330.34    6.299 No_date   28:33   28.11  n/a     .000
R0050:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:PT2ST3        330.34    6.299 No_date   28:33   28.11  n/a     .000
      [RDT= 1.00] out<-      1.0 01:DRAIN2        330.34    5.789 No_date   28:58   28.11  n/a     .000
        [L/S/n=  592./ .230/.043]
        {Vmax=  .593:Dmax= 1.152}
R0050:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D2              2.28     .074 No_date   29:02   43.70 .536     .000
        [CN= 84.0: N= 3.00: Tp=  .99]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime=  12.00]
R0050:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A17            12.04    2.163 No_date   28:03   64.42 .790     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A17            12.04    2.163 No_date   28:03   64.42  n/a     .000
                 out <=      1.0 01:A17STR         12.04     .654 No_date   28:27   64.42  n/a     .000
            overflow <=      1.0 03:A17OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3445E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-4             .35     .063 No_date   28:00   50.67 .622     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-4             .35     .063 No_date   28:00   50.67  n/a     .000
                 out <=      1.0 01:ST4STR           .35     .031 No_date   28:10   50.67  n/a     .000
            overflow <=      1.0 03:ST4OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2719E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A18             5.30    1.036 No_date   28:01   64.42 .790     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A18             5.30    1.036 No_date   28:01   64.42  n/a     .000
                 out <=      1.0 01:A18STR          5.30     .300 No_date   28:22   64.42  n/a     .000
            overflow <=      1.0 03:A18OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1532E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN2        330.34    5.789 No_date   28:58   28.11  n/a     .000
                      +      1.0 02:D2              2.28     .074 No_date   29:02   43.70  n/a     .000
                      +      1.0 02:A17STR         12.04     .654 No_date   28:27   64.42  n/a     .000
                      +      1.0 02:A17OVF           .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:ST4STR           .35     .031 No_date   28:10   50.67  n/a     .000
                      +      1.0 02:ST4OVF           .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:A18STR          5.30     .300 No_date   28:22   64.42  n/a     .000
                      +      1.0 02:A18OVF           .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=      1.0 01:PT3ST4        350.31    6.632 No_date   28:55   30.03  n/a     .000
R0050:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:PT3ST4        350.31    6.632 No_date   28:55   30.03  n/a     .000
      [RDT= 1.00] out<-      1.0 01:DRAIN3        350.31    6.350 No_date   29:11   30.03  n/a     .000
        [L/S/n=  525./ .230/.043]
        {Vmax=  .613:Dmax= 1.197}
R0050:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D3              2.51     .113 No_date   28:43   47.27 .580     .000
        [CN= 86.0: N= 3.00: Tp=  .73]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0050:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:C1              3.41     .690 No_date   28:01   64.42 .790     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:C1              3.41     .690 No_date   28:01   64.42  n/a     .000
                 out <=      1.0 01:C1-STR          3.41     .194 No_date   28:20   64.42  n/a     .000
            overflow <=      1.0 03:C1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.9900E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-5             .45     .079 No_date   28:00   50.67 .622     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-5             .45     .079 No_date   28:00   50.67  n/a     .000
                 out <=      1.0 01:ST5STR           .45     .040 No_date   28:10   50.67  n/a     .000
            overflow <=      1.0 03:ST5OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3164E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN3        350.31    6.350 No_date   29:11   30.03  n/a     .000
                      +      1.0 02:D3              2.51     .113 No_date   28:43   47.27  n/a     .000
                      +      1.0 02:C1-STR          3.41     .194 No_date   28:20   64.42  n/a     .000
                      +      1.0 02:C1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:ST5STR           .45     .040 No_date   28:10   50.67  n/a     .000
                      +      1.0 02:ST5OVF           .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=      1.0 01:ST5-E         356.68    6.575 No_date   29:09   30.51  n/a     .000
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R0050:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:STRAND          7.59     1.038 No_date   28:09   62.95 .772     .000
      [XIMP=.64:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:STRAND          7.59     1.038 No_date   28:09   62.95  n/a     .000
                out  <=   1.0 01:S-POND          7.59      .137 No_date   29:13   62.95  n/a     .000
           overflow  <=   1.0 03:S-OVF            .00      .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.3159E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:ST5-E         356.68     6.575 No_date   29:09   30.51  n/a     .000
                    +     1.0 02:S-POND          7.59      .137 No_date   29:13   62.95  n/a     .000
                    +     1.0 02:S-OVF            .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:SSAOUT        364.27     6.711 No_date   29:09   31.19  n/a     .000
R0050:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SSAOUT        364.27     6.711 No_date   29:09   31.19  n/a     .000
      fname :SSAOUT.0050
      remark:SSAOUT
R0050:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Area-A         66.75     8.917 No_date   28:08   61.83 .759     .000
      [XIMP=.64:TIMP=.80]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:Area-A         66.75     8.917 No_date   28:08   61.83  n/a     .000
      fname :Area-A.0050
      remark:SMWF-A Inflow
R0050:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Area-A         66.75     8.917 No_date   28:08   61.83  n/a     .000
                out  <=   1.0 01:SWMF-A         66.75     1.070 No_date   29:16   61.83  n/a     .000
           overflow  <=   1.0 03:SWMAOV           .00      .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.2845E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SWMF-A         66.75     1.070 No_date   29:16   61.83  n/a     .000
      fname :SWMF-A.0050
      remark:SMWF-A Outflow
R0050:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SSAOUT        364.27     6.711 No_date   29:09   31.19  n/a     .000
                    +     1.0 02:SWMF-A         66.75     1.070 No_date   29:16   61.83  n/a     .000
                    +     1.0 02:SWMAOV           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:PT4ST5        431.02     7.776 No_date   29:10   35.93  n/a     .000
R0050:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:C6              1.87      .395 No_date   28:01   64.42 .790     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:C6              1.87      .395 No_date   28:01   64.42  n/a     .000
                out  <=   1.0 01:C6-STR          1.87      .110 No_date   28:18   64.42  n/a     .000
           overflow  <=   1.0 03:C6-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.5452E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:C7              1.62      .347 No_date   28:00   64.42 .790     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:C7              1.62      .347 No_date   28:00   64.42  n/a     .000
                out  <=   1.0 01:C7-STR          1.62      .096 No_date   28:17   64.42  n/a     .000
           overflow  <=   1.0 03:C7-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.4698E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-6             .41      .073 No_date   28:00   50.67 .622     .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-6             .41      .073 No_date   28:00   50.67  n/a     .000
                out  <=   1.0 01:ST6STR           .41      .036 No_date   28:10   50.67  n/a     .000
           overflow  <=   1.0 03:ST6OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.3103E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:PT4ST5        431.02     7.776 No_date   29:10   35.93  n/a     .000
                    +     1.0 02:C6-STR          1.87      .110 No_date   28:18   64.42  n/a     .000
                    +     1.0 02:C6-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:C7-STR          1.62      .096 No_date   28:17   64.42  n/a     .000
                    +     1.0 02:C7-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:ST6STR           .41      .036 No_date   28:10   50.67  n/a     .000
                    +     1.0 02:ST6OVF           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:PT5ST6        434.92     7.904 No_date   29:09   36.17  n/a     .000
R0050:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:PT5ST6        434.92     7.904 No_date   29:09   36.17  n/a     .000
     [RDT= 1.00] out<-    1.0 01:DRAIN4        434.92     7.615 No_date   29:20   36.17  n/a     .000
      [L/S/n=  324./ .100/.043]
      {Vmax=  .490:Dmax= 1.531}
R0050:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D4              1.73      .097 No_date   28:34   50.14 .615     .000
      [CN= 88.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
      [InterEventTime=  12.00]
R0050:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Area-B         24.04     4.418 No_date   28:02   60.51 .742     .000
      [XIMP=.62:TIMP=.77]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Area-B         24.04     4.418 No_date   28:02   60.51  n/a     .000
                out  <=   1.0 01:SWMF-B         24.04      .566 No_date   28:42   60.51  n/a     .000
           overflow  <=   1.0 03:SWMBOVF          .00      .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.8944E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN4        434.92     7.615 No_date   29:20   36.17  n/a     .000
                    +     1.0 02:D4              1.73      .097 No_date   28:34   50.14  n/a     .000
                    +     1.0 02:SWMF-B         24.04      .566 No_date   28:42   60.51  n/a     .000
                    +     1.0 02:SWMBOVF          .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:D4-EX         460.69     8.190 No_date   29:19   37.49  n/a     .000
R0050:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:D4-EX         460.69     8.190 No_date   29:19   37.49  n/a     .000
     [RDT= 1.00] out<-    1.0 01:DRAIN5        460.69     8.038 No_date   29:27   37.49  n/a     .000
      [L/S/n=  413./ .160/.033]
      {Vmax=  .675:Dmax= 1.051}
R0050:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D5              1.90      .089 No_date   28:40   47.27 .580     .000
      [CN= 86.0: N= 3.00: Tp=  .69]
      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
      [InterEventTime=  12.00]
R0050:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-13SDF         9.74      .578 No_date   28:21   44.42 .545     .000
      [CN= 81.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0050:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:O-13SDF         9.74      .578 No_date   28:21   44.42  n/a     .000
                out  <=   1.0 01:SDF             9.74      .061 No_date   30:55   44.42  n/a     .000
           overflow  <=   1.0 03:OVFSDF           .00      .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.2427E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN5        460.69     8.038 No_date   29:27   37.49  n/a     .000
                    +     1.0 02:D5              1.90      .089 No_date   28:40   47.27  n/a     .000
                    +     1.0 02:SDF             9.74      .061 No_date   30:55   44.42  n/a     .000
                 SUM=     1.0 01:PT6MC         472.33     8.151 No_date   29:27   37.68  n/a     .000
R0050:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-15           10.67      .800 No_date   28:13   43.28 .531     .000
      [CN= 82.0: N= 3.00: Tp=  .30]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0050:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:PT6MC         472.33     8.151 No_date   29:27   37.68  n/a     .000
                    +     1.0 02:O-15           10.67      .800 No_date   28:13   43.28  n/a     .000
                 SUM=     1.0 01:M-C           483.00     8.281 No_date   29:26   37.80  n/a     .000
R0050:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:M-C           483.00     8.281 No_date   29:26   37.80  n/a     .000
     [RDT= 1.00] out<-    1.0 01:O-14Ch        483.00     7.494 No_date   29:58   37.80  n/a     .000
      [L/S/n=  845./ .100/.033]
      {Vmax=  .549:Dmax= 1.780}
R0050:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-14            5.00      .616 No_date   28:04   43.28 .531     .000
      [CN= 82.0: N= 3.00: Tp=  .13]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0050:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:O-14Ch        483.00     7.494 No_date   29:58   37.80  n/a     .000
                    +     1.0 02:O-14            5.00      .616 No_date   28:04   43.28  n/a     .000
                 SUM=     1.0 01:OKEEFE        488.00     7.533 No_date   29:58   37.86  n/a     .000
#****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#****************************************************************************
R0050:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D2         18.67      .488 No_date   29:12   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.12]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D3          6.79      .161 No_date   29:23   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.28]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_OK        53064.36   125.374 No_date   33:43   33.58  n/a     .000
                    +     1.0 02:OKEEFE        488.00     7.533 No_date   29:58   37.86  n/a     .000
                    +     1.0 02:S-1-D2         18.67      .488 No_date   29:12   39.91  n/a     .000
                    +     1.0 02:S-1-D3          6.79      .161 No_date   29:23   39.91  n/a     .000
                 SUM=     1.0 01:SN_OK       53577.82   128.132 No_date   33:19   33.62  n/a     .000
R0050:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_OK       53577.82   128.132 No_date   33:19   33.62  n/a     .000
      fname :SN_OK.0050
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0050:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_OK       53577.82   128.132 No_date   33:19   33.62  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_FO        53577.82   127.740 No_date   33:20   33.62  n/a     .000
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.239:Dmax= 3.375}
#****************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#****************************************************************************
R0050:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FOSTER        325.44    32.213 No_date   28:11   58.69 .720     .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
#****************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#****************************************************************************
R0050:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:FOSTER        325.44    32.213 No_date   28:11   58.69  n/a     .000
                out  <=   1.0 01:P_FOS         325.44     8.155 No_date   29:03   58.69  n/a     .000
           overflow  <=   1.0 03:FO-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.7887E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:P_FOS         325.44     8.155 No_date   29:03   58.69  n/a     .000
                    +     1.0 02:FO-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:FOSTER-OUT    325.44     8.155 No_date   29:03   58.69  n/a     .000
#****************************************************************************
R0050:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA     73.29    10.462 No_date   28:05   63.49 .779     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA     73.29    10.462 No_date   28:05   63.49  n/a     .000
                out  <=   1.0 01:MS_P10         73.29     1.204 No_date   29:09   63.49  n/a     .000
           overflow  <=   1.0 03:P10-OVF          .00      .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.1950E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-FO-D2       4.94      .131 No_date   29:10   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FOSTER-OUT    325.44     8.155 No_date   29:03   58.69  n/a     .000
                    +     1.0 02:S-1-FO-D2       4.94      .131 No_date   29:10   39.91  n/a     .000
                 SUM=     1.0 01:980           330.38     8.285 No_date   29:03   58.41  n/a     .000
R0050:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:980           330.38     8.285 No_date   29:03   58.41  n/a     .000
      fname :980.0050
      remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0050:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:980           330.38     8.285 No_date   29:03   58.41  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:980-out       330.38     7.901 No_date   29:23   58.41  n/a     .000
      [L/S/n=  460./ .043/.035]
      {Vmax=  .590:Dmax= 1.605}
R0050:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-FO-D1       5.11      .135 No_date   29:10   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:980-out       330.38     7.901 No_date   29:23   58.41  n/a     .000
                    +     1.0 02:S-1-FO-D1       5.11      .135 No_date   29:10   39.91  n/a     .000
                 SUM=     1.0 01:520           335.49     8.034 No_date   29:23   58.13  n/a     .000
R0050:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:520           335.49     8.034 No_date   29:23   58.13  n/a     .000
      fname :520.0050
      remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0050:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:520           335.49     8.034 No_date   29:23   58.13  n/a     .000
     [RDT= 1.00] out<-    1.0 01:520-out       335.49     7.994 No_date   29:28   58.13  n/a     .000
      [L/S/n=  860./ .587/.035]
      {Vmax= 1.541:Dmax=  .767}
R0050:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-FO-F-D     14.96      .422 No_date   29:03   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.01]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D8          5.27     1.023 No_date   28:00   63.95 .785     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-A          75.88     3.042 No_date   28:36   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:W_CLAR_UND     35.65      .943 No_date   29:10   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_FO        53577.82   127.740 No_date   33:20   33.62  n/a     .000
                    +     1.0 02:520-out       335.49     7.994 No_date   29:28   58.13  n/a     .000
                    +     1.0 02:MS_P10         73.29     1.204 No_date   29:09   63.49  n/a     .000
                    +     1.0 02:P10-OVF          .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:W_CLAR_UND     35.65      .943 No_date   29:10   39.91  n/a     .000
                    +     1.0 02:S-1-FO-F-D     14.96      .422 No_date   29:03   39.91  n/a     .000
                    +     1.0 02:S-1-D8          5.27     1.023 No_date   28:00   63.95  n/a     .000
                    +     1.0 02:S-1-A          75.88     3.042 No_date   28:36   39.91  n/a     .000
                 SUM=     1.0 01:SN_FO       54118.36   132.970 No_date   33:19   33.83  n/a     .000
R0050:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_FO       54118.36   132.970 No_date   33:19   33.83  n/a     .000
      fname :SN_FO.0050
      remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0050:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_FO       54118.36   132.970 No_date   33:19   33.83  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:N_CE        54118.36   132.590 No_date   33:34   33.83  n/a     .000
      [L/S/n=  159./ .082/.035]
      {Vmax= 1.439:Dmax= 4.175}
#****************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#****************************************************************************
R0050:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-B          55.36     2.770 No_date   28:23   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp=  .45]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0050:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D1         21.67      .587 No_date   29:08   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.07]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D4          3.28      .087 No_date   29:10   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D5         12.84      .340 No_date   29:10   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D6          1.75      .046 No_date   29:10   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-D7          2.03      .054 No_date   29:10   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#    Catchment W_CLAR
```

```
#     - To West Clarke Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#     - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#     - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#*****************************************************************************
R0050:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:W_CLAR_MJ      1.77     .319 No_date   28:00   59.44 .729     .000
      [XIMP=.46:TIMP=.59]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0050:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:W_CLAR_MJ      1.77     .319 No_date   28:00   59.44  n/a     .000
                 out <=  1.0 01:W_CLAR_MJn     1.70     .213 No_date   27:53   59.44  n/a     .000
            overflow <=  1.0 03:W_CLAR_MJj      .08     .102 No_date   28:01   59.44  n/a     .000
     {MxStoUsed=.1125E-03  m3, TotOvfVol=.4485E-02  m3, N-Ovf=   1, TotDurOvf=   0.hrs}
R0050:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:W_CLAR_ALL   119.40   17.358 No_date   28:04   63.49 .779     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:W_CLAR_ALL   119.40   17.358 No_date   28:04   63.49  n/a     .000
                    +    1.0 02:W_CLAR_MJj      .08     .102 No_date   28:01   59.44  n/a     .000
                 SUM=    1.0 01:W_CLAR       119.47   17.371 No_date   28:04   63.49  n/a     .000
R0050:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:W_CLAR       119.47   17.371 No_date   28:04   63.49  n/a     .000
      fname :W_CLAR.0050
      remark:Total Flows to West Clarke
#*****************************************************************************
#    West Clarke Pond 2
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*****************************************************************************
R0050:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:W_CLAR       119.47   17.371 No_date   28:04   63.49  n/a     .000
                 out <=  1.0 01:MS_P2        119.47   10.246 No_date   28:16   63.49  n/a     .000
            overflow <=  1.0 03:P2-OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3076E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=   0, TotDurOvf=   0.hrs}
#*****************************************************************************
R0050:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N_CE       54118.36  132.590 No_date   33:34   33.83  n/a     .000
                    +    1.0 02:S-1-D4         3.28     .087 No_date   29:10   39.91  n/a     .000
                    +    1.0 02:S-1-D5        12.84     .340 No_date   29:10   39.91  n/a     .000
                    +    1.0 02:MS_P2        119.47   10.246 No_date   28:16   63.49  n/a     .000
                    +    1.0 02:P2-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:SN_CE      54253.95  133.524 No_date   33:22   33.90  n/a     .000
R0050:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:SN_CE      54253.95  133.524 No_date   33:22   33.90  n/a     .000
      fname :SN_CE.0050
      remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
# JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
R0050:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:SN_CE      54253.95  133.524 No_date   33:22   33.90  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:5737       54253.95  127.934 No_date   35:32   33.90  n/a     .000
      [L/S/n=  270./ .018/.035]
      {Vmax=  .826:Dmax= 5.268}
R0050:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:5737       54253.95  127.934 No_date   35:32   33.90  n/a     .000
                    +    1.0 02:S-1-D1        21.67     .587 No_date   29:08   39.91  n/a     .000
                    +    1.0 02:S-1-D6         1.75     .046 No_date   29:10   39.91  n/a     .000
                    +    1.0 02:S-1-D7         2.03     .054 No_date   29:10   39.91  n/a     .000
                 SUM=    1.0 01:5002       54279.41  128.023 No_date   35:32   33.90  n/a     .000
R0050:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:5002       54279.41  128.023 No_date   35:32   33.90  n/a     .000
      fname :5002.0050
      remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0050:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:5002       54279.41  128.023 No_date   35:32   33.90  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:N_WCa      54279.41  127.998 No_date   35:39   33.90  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.271:Dmax= 2.986}
R0050:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:N_WCa      54279.41  127.998 No_date   35:39   33.90  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:N_WCb      54279.41  127.975 No_date   35:46   33.90  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.271:Dmax= 2.986}
R0050:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:N_WCb      54279.41  127.975 No_date   35:46   33.90  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:N_WC       54279.41  127.967 No_date   35:50   33.90  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.271:Dmax= 2.985}
#*****************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0050:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:N_WC       54279.41  127.967 No_date   35:50   33.90  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:N_KB       54279.41  127.622 No_date   36:14   33.90  n/a     .000
      [L/S/n= 1020./ .050/.035]
      {Vmax= 1.117:Dmax= 3.767}
#*****************************************************************************
#    Catchment KEN_BU
#     - To Kennedy-Burnett SWM Facility
#     - Outlets to Fraser-Clarke drain (north of the Jock)
#     - Medium density residential subdivision
#*****************************************************************************
#*****************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#     - Rating curve obtained from URTKBP
#     - Tributary Drainage Area to Pond = 160 ha
#*****************************************************************************
R0050:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-01A        40.82    4.812 No_date   28:10   33.07 .406     .000
      [XIMP=.10:TIMP=.40]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-01A        40.82    4.812 No_date   28:10   33.07  n/a     .000
     Major System  /     1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-01A-MN     40.82    3.600 No_date   28:00   33.14  n/a     .000
      {MJSysSto=.1012E+04, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-01A-MN     40.82    3.600 No_date   28:00   33.14  n/a     .000
                 SUM=    1.0 01:KB-01A-S      40.82    3.600 No_date   28:00   33.14  n/a     .000
R0050:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-01B        31.10    3.541 No_date   28:07   36.47 .447     .000
      [XIMP=.19:TIMP=.38]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-01B        31.10    3.541 No_date   28:07   36.47  n/a     .000
     Major System  /     1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-01B-MN     31.10    1.585 No_date   27:53   36.51  n/a     .000
      {MJSysSto=.2627E+04, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-01B-MN     31.10    1.585 No_date   27:53   36.51  n/a     .000
                 SUM=    1.0 01:KB-01B-S      31.10    1.585 No_date   27:53   36.51  n/a     .000
R0050:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-01C        13.78    2.163 No_date   28:04   37.72 .463     .000
      [XIMP=.20:TIMP=.41]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-01C        13.78    2.163 No_date   28:04   37.72  n/a     .000
     Major System  /     1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-01C-MN     13.78    1.350 No_date   27:55   37.86  n/a     .000
      {MJSysSto=.5764E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-01C-MN     13.78    1.350 No_date   27:55   37.86  n/a     .000
                 SUM=    1.0 01:KB-01C-S      13.78    1.350 No_date   27:55   37.86  n/a     .000
R0050:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-03         84.78   11.183 No_date   28:07   37.17 .456     .000
      [XIMP=.20:TIMP=.39]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-03         84.78   11.183 No_date   28:07   37.17  n/a     .000
     Major System  /     1.0 02:KB-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-03-MN      84.78    5.270 No_date   27:54   37.24  n/a     .000
      {MJSysSto=.6453E+04, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-03-MN      84.78    5.270 No_date   27:54   37.24  n/a     .000
                 SUM=    1.0 01:KB-03-S       84.78    5.270 No_date   27:54   37.24  n/a     .000
R0050:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-04          6.95    1.592 No_date   28:00   71.86 .882     .000
      [XIMP=.85:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-04          6.95    1.592 No_date   28:00   71.86  n/a     .000
     Major System  /     1.0 02:KB-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-04-MN       6.95     .503 No_date   27:44   72.11  n/a     .000
      {MJSysSto=.9423E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-04-MN       6.95     .503 No_date   27:44   72.11  n/a     .000
                 SUM=    1.0 01:KB-04-S        6.95     .503 No_date   27:44   72.11  n/a     .000
R0050:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-05          5.19    1.270 No_date   28:00   75.92 .931     .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-06         12.93    3.268 No_date   28:00   73.20 .898     .000
      [XIMP=.87:TIMP=.87]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-06         12.93    3.268 No_date   28:00   73.20  n/a     .000
     Major System  /     1.0 02:KB-06-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-06-MN      12.93    2.262 No_date   27:52   73.67  n/a     .000
      {MJSysSto=.4323E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-06-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-06-MN      12.93    2.262 No_date   27:52   73.67  n/a     .000
                 SUM=    1.0 01:KB-06-S       12.93    2.262 No_date   27:52   73.67  n/a     .000
R0050:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-11          4.03     .921 No_date   28:00   61.82 .758     .000
      [XIMP=.68:TIMP=.68]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-11          4.03     .921 No_date   28:00   61.82  n/a     .000
     Major System  /     1.0 02:KB-11-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-11-MN       4.03     .577 No_date   27:52   62.10  n/a     .000
      {MJSysSto=.1581E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-11-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-11-MN       4.03     .577 No_date   27:52   62.10  n/a     .000
                 SUM=    1.0 01:KB-11-S        4.03     .577 No_date   27:52   62.10  n/a     .000
R0050:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S1             4.99    1.304 No_date   28:00   75.92 .931     .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-15          2.15     .497 No_date   28:00   69.00 .847     .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-01A-S      40.82    3.600 No_date   28:00   33.14  n/a     .000
                    +    1.0 02:KB-01B-S      31.10    1.585 No_date   27:53   36.51  n/a     .000
                    +    1.0 02:KB-01C-S      13.78    1.350 No_date   27:55   37.86  n/a     .000
                    +    1.0 02:KB-03-S       84.78    5.270 No_date   27:54   37.24  n/a     .000
                    +    1.0 02:KB-04-S        6.95     .503 No_date   27:44   72.11  n/a     .000
                    +    1.0 02:KB-05          5.19    1.270 No_date   28:00   75.92  n/a     .000
                    +    1.0 02:KB-06-S       12.93    2.262 No_date   27:52   73.67  n/a     .000
                    +    1.0 02:KB-11-S        4.03     .577 No_date   27:52   62.10  n/a     .000
                    +    1.0 02:KB-15          2.15     .497 No_date   28:00   69.00  n/a     .000
                    +    1.0 02:S1             4.99    1.304 No_date   28:00   75.92  n/a     .000
                 SUM=    1.0 01:KB-P1        206.72   18.218 No_date   28:00   42.53  n/a     .000
R0050:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:KB-P1        206.72   18.218 No_date   28:00   42.53  n/a     .000
                 out <=  1.0 01:KB-P1R       198.38   12.438 No_date   28:02   42.53  n/a     .000
            overflow <=  1.0 03:KB-P1ovf       8.34    5.573 No_date   28:02   42.53  n/a     .000
     {MxStoUsed=.7313E+00  m3, TotOvfVol=.3545E+00  m3, N-Ovf=   2, TotDurOvf=   1.hrs}
R0050:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-P1R       198.38   12.438 No_date   28:02   42.53  n/a     .000
                    +    1.0 02:KB-P1ovf       8.34    5.573 No_date   28:02   42.53  n/a     .000
                 SUM=    1.0 01:KB-Pond1     206.72   18.011 No_date   28:02   42.53  n/a     .000
R0050:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:KB-Pond1     206.72   18.011 No_date   28:02   42.53  n/a     .000
      fname :KB-Pond1.0050
      remark:Total Flows at KB first pond
R0050:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-07         10.86    2.656 No_date   28:00   72.58 .890     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-07         10.86    2.656 No_date   28:00   72.58  n/a     .000
     Major System  /     1.0 02:KB-07-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-07-MN      10.86    2.094 No_date   28:08   72.95  n/a     .000
      {MJSysSto=.1950E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-07-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-07-MN      10.86    2.094 No_date   28:08   72.95  n/a     .000
                 SUM=    1.0 01:KB-07-S       10.86    2.094 No_date   28:08   72.95  n/a     .000
R0050:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-08          6.61    1.444 No_date   28:00   59.78 .733     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-08          6.61    1.444 No_date   28:00   59.78  n/a     .000
     Major System  /     1.0 02:KB-08-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-08-MN       6.61    1.058 No_date   27:53   60.05  n/a     .000
      {MJSysSto=.1439E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-08-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-08-MN       6.61    1.058 No_date   27:53   60.05  n/a     .000
                 SUM=    1.0 01:KB-08-S        6.61    1.058 No_date   27:53   60.05  n/a     .000
R0050:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-09          2.60     .665 No_date   28:00   71.90 .882     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-10_1        2.37     .607 No_date   28:00   71.90 .882     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-10_2        1.14     .295 No_date   28:00   71.90 .882     .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-12          4.86    1.174 No_date   28:00   68.26 .837     .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-12          4.86    1.174 No_date   28:00   68.26  n/a     .000
     Major System  /     1.0 02:KB-12-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-12-MN       4.86     .867 No_date   28:09   68.93  n/a     .000
      {MJSysSto=.1203E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-12-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-12-MN       4.86     .867 No_date   28:09   68.93  n/a     .000
                 SUM=    1.0 01:KB-12-S        4.86     .867 No_date   28:09   68.93  n/a     .000
R0050:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-13         10.19    2.184 No_date   28:00   59.78 .733     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-13         10.19    2.184 No_date   28:00   59.78  n/a     .000
     Major System  /     1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-13-MN      10.19    1.722 No_date   27:55   60.01  n/a     .000
      {MJSysSto=.1587E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-13-MN      10.19    1.722 No_date   27:55   60.01  n/a     .000
                 SUM=    1.0 01:KB-13-S       10.19    1.722 No_date   27:55   60.01  n/a     .000
R0050:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-14          5.47    1.201 No_date   28:00   59.78 .733     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:KB-14          5.47    1.201 No_date   28:00   59.78  n/a     .000
     Major System  /     1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:KB-14-MN       5.47     .873 No_date   27:53   60.02  n/a     .000
      {MJSysSto=.1239E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0050:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:KB-14-MN       5.47     .873 No_date   27:53   60.02  n/a     .000
                 SUM=    1.0 01:KB-14-S        5.47     .873 No_date   27:53   60.02  n/a     .000
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R0050:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-16_2          3.42      .724 No_date    28:01    64.30 .789      .000
       [XIMP=.71:TIMP=.71]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-Pond1      206.72    18.011 No_date    28:02    42.53  n/a      .000
                       +    1.0 02:KB-07-S        10.86     2.094 No_date    28:08    72.95  n/a      .000
                       +    1.0 02:KB-08-S         6.61     1.058 No_date    27:53    60.05  n/a      .000
                       +    1.0 02:KB-09           2.60      .665 No_date    28:00    71.90  n/a      .000
                       +    1.0 02:KB-10_1         2.37      .607 No_date    28:00    71.90  n/a      .000
                       +    1.0 02:KB-10_2         1.14      .295 No_date    28:00    71.90  n/a      .000
                       +    1.0 02:KB-12-S         4.86      .867 No_date    28:09    68.93  n/a      .000
                       +    1.0 02:KB-13-S        10.19     1.722 No_date    27:55    60.01  n/a      .000
                       +    1.0 02:KB-14-S         5.47      .873 No_date    27:53    60.02  n/a      .000
                       +    1.0 02:KB-16_2         3.42      .724 No_date    28:01    64.30  n/a      .000
                    SUM=    1.0 01:KB-P2         254.24    26.339 No_date    28:02    46.87  n/a      .000
R0050:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:KB-P2         254.24    26.339 No_date    28:02    46.87  n/a      .000
                 out <=     1.0 01:KB-P2R        253.10    17.634 No_date    28:09    46.87  n/a      .000
            overflow <=     1.0 03:KB-P2ovf        1.14     5.257 No_date    28:09    46.87  n/a      .000
      {MxStoUsed=.1109E+01  m3, TotOvfVol=.5351E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-P2R        253.10    17.634 No_date    28:09    46.87  n/a      .000
                       +    1.0 02:KB-P2ovf        1.14     5.257 No_date    28:09    46.87  n/a      .000
                    SUM=    1.0 01:KB-Pond2      254.24    22.891 No_date    28:09    46.87  n/a      .000
R0050:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:KB-Pond2      254.24    22.891 No_date    28:09    46.87  n/a      .000
       fname :KB-Pond2.0050
       remark:Total Flows at KB second pond
R0050:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-16_1          2.80      .624 No_date    28:00    66.65 .818      .000
       [XIMP=.75:TIMP=.75]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-Pond2      254.24    22.891 No_date    28:09    46.87  n/a      .000
                       +    1.0 02:KB-16_1         2.80      .624 No_date    28:00    66.65  n/a      .000
                    SUM=    1.0 01:KB-P3         257.04    23.147 No_date    28:09    47.08  n/a      .000
R0050:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:KB-P3         257.04    23.147 No_date    28:09    47.08  n/a      .000
                 out <=     1.0 01:KB-P3R          9.40      .051 No_date    17:13    47.07  n/a      .000
            overflow <=     1.0 03:KB-P3ovf      247.64    22.286 No_date    28:10    47.08  n/a      .000
      {MxStoUsed=.1988E-02  m3, TotOvfVol=.1166E+02  m3, N-Ovf=    1, TotDurOvf=   23.hrs}
R0050:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-P3R          9.40      .051 No_date    17:13    47.07  n/a      .000
                       +    1.0 02:KB-P3ovf      247.64    22.286 No_date    28:10    47.08  n/a      .000
                    SUM=    1.0 01:KB-Pond3      257.04    22.337 No_date    28:10    47.08  n/a      .000
R0050:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:KB-Pond3      257.04    22.337 No_date    28:10    47.08  n/a      .000
       fname :KB-Pond3.0050
       remark:Total Flows at KB third pond
#*****************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#*****************************************************************************
R0050:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:FC-01            8.03     1.483 No_date    28:01    49.52 .608      .000
       [XIMP=.47:TIMP=.47]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-01           8.03     1.483 No_date    28:01    49.52  n/a      .000
      Major System   /      1.0 02:FC-01-MJ         .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \      1.0 03:FC-01-MN        8.03      .756 No_date    28:32    49.91  n/a      .000
       {MjSysSto=.4662E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-01-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:FC-01-MN        8.03      .756 No_date    27:51    49.91  n/a      .000
                    SUM=    1.0 01:FC-01-S         8.03      .756 No_date    27:51    49.91  n/a      .000
R0050:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:FC-02           16.05     3.831 No_date    28:00    75.92 .931      .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-02          16.05     3.831 No_date    28:00    75.92  n/a      .000
      Major System   /      1.0 02:FC-02-MJ         .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \      1.0 03:FC-02-MN       16.05     1.159 No_date    27:43    75.94  n/a      .000
       {MjSysSto=.2348E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-02-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:FC-02-MN       16.05     1.159 No_date    27:43    75.94  n/a      .000
                    SUM=    1.0 01:FC-02-S        16.05     1.159 No_date    27:43    75.94  n/a      .000
R0050:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:FC-03            7.37     1.540 No_date    28:00    59.28 .727      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-03           7.37     1.540 No_date    28:00    59.28  n/a      .000
      Major System   /      1.0 02:FC-03-MJ         .02      .092 No_date    28:14    59.28  n/a      .000
      Minor System   \      1.0 03:FC-03-MN        7.35      .358 No_date    27:42    59.51  n/a      .000
       {MjSysSto=.1131E+04, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-03-MJ         .02      .092 No_date    28:14    59.28  n/a      .000
                       +    1.0 02:FC-03-MN        7.35      .358 No_date    27:42    59.51  n/a      .000
                    SUM=    1.0 01:FC-03-S         7.37      .450 No_date    28:14    59.51  n/a      .000
R0050:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:FC-04           12.87     2.587 No_date    28:01    59.28 .727      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-04          12.87     2.587 No_date    28:01    59.28  n/a      .000
      Major System   /      1.0 02:FC-04-MJ         .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \      1.0 03:FC-04-MN       12.87      .741 No_date    27:44    59.54  n/a      .000
       {MjSysSto=.1729E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-04-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:FC-04-MN       12.87      .741 No_date    27:44    59.54  n/a      .000
                    SUM=    1.0 01:FC-04-S        12.87      .741 No_date    27:44    59.54  n/a      .000
#*****************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#*****************************************************************************
R0050:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:JR-01            8.24     1.714 No_date    28:00    59.28 .727      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:JR-01           8.24     1.714 No_date    28:00    59.28  n/a      .000
      Major System   /      1.0 02:JR-01-MJ         .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \      1.0 03:JR-01-MN        8.24      .563 No_date    28:59    59.48  n/a      .000
       {MjSysSto=.9643E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:JR-01-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:JR-01-MN        8.24      .563 No_date    27:44    59.48  n/a      .000
                    SUM=    1.0 01:JR-01-S         8.24      .563 No_date    27:44    59.48  n/a      .000
R0050:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:JR-02            1.59      .357 No_date    28:00    59.28 .727      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:JR-02           1.59      .357 No_date    28:00    59.28  n/a      .000
      Major System   /      1.0 02:JR-02-MJ         .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \      1.0 03:JR-02-MN        1.59      .153 No_date    27:45    59.66  n/a      .000
       {MjSysSto=.1319E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:JR-02-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:JR-02-MN        1.59      .153 No_date    27:45    59.66  n/a      .000
                    SUM=    1.0 01:JR-02-S         1.59      .153 No_date    27:45    59.66  n/a      .000
#*****************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#*****************************************************************************
R0050:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:FRASER-DRN     13.65      .711 No_date    28:22    39.91 .490      .000
       [CN= 77.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0050:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:FRASER-D       21.61      .816 No_date    28:40    39.91 .490      .000
       [CN= 77.0: N= 3.00: Tp=  .67]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0050:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-Pond3      257.04    22.337 No_date    28:10    47.08  n/a      .000
                       +    1.0 02:S-1-B          55.36     2.770 No_date    28:23    39.91  n/a      .000
                       +    1.0 02:FRASER-DRN     13.65      .711 No_date    28:22    39.91  n/a      .000
                       +    1.0 02:FRASER-D       21.61      .816 No_date    28:40    39.91  n/a      .000
                       +    1.0 02:N_KB         54279.41  127.622 No_date    36:14    33.90  n/a      .000
                       +    1.0 02:FC-01-S         8.03      .756 No_date    27:51    49.91  n/a      .000
                       +    1.0 02:FC-02-S        16.05     1.159 No_date    27:43    75.94  n/a      .000
                       +    1.0 02:FC-03-S         7.37      .450 No_date    28:14    59.51  n/a      .000
                    SUM=    1.0 01:4241         54658.52  128.395 No_date    35:50    33.99  n/a      .000
R0050:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:4241         54658.52  128.395 No_date    35:50    33.99  n/a      .000
       fname :4241.0050
       remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0050:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:4241         54658.52  128.395 No_date    35:50    33.99  n/a      .000
      [RDT= 1.00] out<-     1.0 01:4241-out     54658.52  128.422 No_date    36:04    33.99  n/a      .000
       [L/S/n=  294./ .109/.035]
       {Vmax= 1.338:Dmax= 2.446}
R0050:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:4241-out     54658.52  128.422 No_date    36:04    33.99  n/a      .000
                       +    1.0 02:FC-04-S        12.87      .741 No_date    27:44    59.54  n/a      .000
                       +    1.0 02:JR-01-S         8.24      .563 No_date    27:44    59.48  n/a      .000
                       +    1.0 02:JR-02-S         1.59      .153 No_date    27:45    59.66  n/a      .000
                    SUM=    1.0 01:SN_KB        54681.21  128.479 No_date    35:47    34.00  n/a      .000
R0050:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_KB        54681.21  128.479 No_date    35:47    34.00  n/a      .000
       fname :SN_KB.0050
       remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0050:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:SN_KB        54681.21  128.479 No_date    35:47    34.00  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N_TO         54681.21  128.396 No_date    36:11    34.00  n/a      .000
       [L/S/n=  608./ .247/.035]
       {Vmax= 1.819:Dmax= 1.834}
#*****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#*****************************************************************************
R0050:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:Greenbank       36.60     6.286 No_date    28:02    65.04 .798      .000
       [XIMP=.64:TIMP=.68]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Greenbank      36.60     6.286 No_date    28:02    65.04  n/a      .000
                 out <=     1.0 01:GreenB_MN      36.60     4.176 No_date    28:09    65.04  n/a      .000
            overflow <=     1.0 03:GreenB_MJ        .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.9063E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_TO         54681.21  128.396 No_date    36:11    34.00  n/a      .000
                       +    1.0 02:GreenB_MJ        .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:GreenB_MN      36.60     4.176 No_date    28:09    65.04  n/a      .000
                    SUM=    1.0 01:GreenB       54717.81  128.564 No_date    36:11    34.02  n/a      .000
R0050:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:GreenB       54717.81  128.564 No_date    36:11    34.02  n/a      .000
       fname :GreenB.0050
       remark:Total Flows at Greenbank Drain
#*****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#*****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MI") and remove it from Todd
R0050:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MN2         2.10      .384 No_date    28:00    60.14 .738      .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MN3          .12      .022 No_date    28:00    60.13 .738      .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MJ         30.23     4.894 No_date    28:02    61.85 .759      .000
       [XIMP=.52:TIMP=.64]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_ALL       112.91    15.270 No_date    28:04    59.95 .735      .000
       [XIMP=.52:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_P           3.06      .600 No_date    28:00    63.61 .780      .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0050:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MJ        30.23     4.894 No_date    28:02    61.85  n/a      .000
                 out <=     1.0 01:TODD_MJn       28.89     3.314 No_date    27:54    61.87  n/a      .000
            overflow <=     1.0 03:TODD_MJj        1.34     1.567 No_date    28:02    61.85  n/a      .000
      {MxStoUsed=.1169E-02  m3, TotOvfVol=.8285E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0050:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN2        2.10      .384 No_date    28:00    60.14  n/a      .000
                 out <=     1.0 01:TODD_MN2n       2.02      .268 No_date    27:53    60.14  n/a      .000
            overflow <=     1.0 03:TODD_MN2j        .08      .111 No_date    28:00    60.14  n/a      .000
      {MxStoUsed=.1643E-03  m3, TotOvfVol=.4631E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN3         .12      .022 No_date    28:00    60.13  n/a      .000
                 out <=     1.0 01:TODD_MN3n        .11      .016 No_date    27:52    60.13  n/a      .000
            overflow <=     1.0 03:TODD_MN3j        .00      .006 No_date    28:00    60.13  n/a      .000
      {MxStoUsed=.8712E-04  m3, TotOvfVol=.2472E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A2              25.50     3.441 No_date    28:03    55.89 .686      .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A2             25.50     3.441 No_date    28:03    55.89  n/a      .000
      Major System   /      1.0 02:A2-MJ            .64     1.180 No_date    28:07    55.89  n/a      .000
      Minor System   \      1.0 03:A2-MN          24.86     1.818 No_date    28:39    56.08  n/a      .000
       {MjSysSto=.9240E+03, TotOvfVol=.3586E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:TODD_MN2n       2.02      .268 No_date    27:53    60.14  n/a      .000
                       +    1.0 02:TODD_MN3n        .11      .016 No_date    27:52    60.13  n/a      .000
                       +    1.0 02:TODD_MJj        1.34     1.567 No_date    28:02    61.85  n/a      .000
                       +    1.0 02:TODD_P          3.06      .600 No_date    28:00    63.61  n/a      .000
                       +    1.0 02:TODD_ALL      112.91    15.270 No_date    28:04    59.95  n/a      .000
                       +    1.0 02:W_CLAR_MIn      1.70      .213 No_date    27:53    59.44  n/a      .000
                    SUM=    1.0 01:TODD          121.14    17.643 No_date    28:03    60.06  n/a      .000
R0050:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:TODD          121.14    17.643 No_date    28:03    60.06  n/a      .000
       fname :TODD.0050
       remark:Total Flows at Todd Drain
#*****************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#*****************************************************************************
R0050:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD          121.14    17.643 No_date    28:03    60.06  n/a      .000
                 out <=     1.0 01:MS_P3         121.14    12.815 No_date    28:10    60.05  n/a      .000
            overflow <=     1.0 03:P3-OVF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.2728E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:GreenB       54717.81  128.564 No_date    36:11    34.02  n/a      .000
                       +    1.0 02:MS_P3         121.14    12.815 No_date    28:10    60.05  n/a      .000
                       +    1.0 02:P3-OVF           .00      .000 No_date     0:00      .00  n/a      .000
                       +    1.0 02:TODD_MN2j        .08      .111 No_date    28:00    60.14  n/a      .000
                       +    1.0 02:A2-MJ            .64     1.180 No_date    28:07    55.89  n/a      .000
                    SUM=    1.0 01:SN_TO        54839.66  128.992 No_date    36:10    34.08  n/a      .000
R0050:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_TO        54839.66  128.992 No_date    36:10    34.08  n/a      .000
       fname :SN_TO.0050
       remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0050:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:SN_TO        54839.66  128.992 No_date    36:10    34.08  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:N_TO         54839.66  128.918 No_date    36:18    34.08  n/a      .000
       [L/S/n=  280./ .050/.045]
       {Vmax=  .886:Dmax= 3.496}
R0050:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:N_TO         54839.66  128.918 No_date    36:18    34.08  n/a      .000
       fname :N_TO.0050
       remark:Total inflows at Station 2462
#*****************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
```

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#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#*****************************************************************************
R0050:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:corr1          15.87    2.851 No_date   28:01   63.61 .780     .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:corr1          15.87    2.851 No_date   28:01   63.61  n/a     .000
     Major System  /      1.0 02:corr1-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:corr1-MN       15.87    1.818 No_date   28:19   63.67  n/a     .000
      {MjSysSto=.5297E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:corr2          12.47     .330 No_date   29:10   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A1-Corrig      15.75    2.330 No_date   28:01   55.89 .686     .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A1-Corrig      15.75    2.330 No_date   28:01   55.89  n/a     .000
     Major System  /      1.0 02:A1-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:A1-MN          15.75    1.818 No_date   27:56   56.07  n/a     .000
      {MjSysSto=.1953E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:B1              2.77     .119 No_date   28:09   24.96 .306     .000
      [CN= 56.0: N= 3.00: Tp=  .23]
      [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
      [InterEventTime=  12.00]
R0050:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A4              1.27     .239 No_date   28:00   63.95 .785     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A4              1.27     .239 No_date   28:00   63.95  n/a     .000
     Major System  /      1.0 02:A4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:A4-MN           1.27     .239 No_date   28:00   63.95  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A1-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   +      1.0 02:A1-MN          15.75    1.818 No_date   27:56   56.07  n/a     .000
                   +      1.0 02:corr1-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                   +      1.0 02:corr1-MN       15.87    1.818 No_date   28:19   63.67  n/a     .000
                   +      1.0 02:corr2          12.47     .330 No_date   29:10   39.91  n/a     .000
                   +      1.0 02:B1              2.77     .119 No_date   28:09   24.96  n/a     .000
                   +      1.0 02:A4-MN           1.27     .239 No_date   28:00   63.95  n/a     .000
                SUM=      1.0 01:MH101          48.13    4.028 No_date   28:02   52.81  n/a     .000
R0050:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH101          48.13    4.028 No_date   28:02   52.81  n/a     .000
      fname :MH101.0050
      remark:Total Flows at MH101
R0050:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH101          48.13    4.028 No_date   28:02   52.81  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:101-102        48.13    4.005 No_date   28:03   52.81  n/a     .000
      [L/S/n=  368./ .540/.013]
      {Vmax= 3.143:Dmax= 1.119}
      [Din= 1.05:Dused= 1.36}
R0050:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A2-MN          24.86    1.818 No_date   28:39   56.08  n/a     .000
                   +      1.0 02:101-102        48.13    4.005 No_date   28:03   52.81  n/a     .000
                SUM=      1.0 01:MH102          72.99    5.823 No_date   28:03   53.92  n/a     .000
R0050:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH102          72.99    5.823 No_date   28:03   53.92  n/a     .000
      fname :MH102.0050
      remark:Total Flows at MH102
R0050:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A5              1.60     .312 No_date   28:01   66.69 .818     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   +      1.0 02:A5              1.60     .312 No_date   28:01   66.69  n/a     .000
                SUM=      1.0 01:A5T             1.60     .312 No_date   28:01   66.69  n/a     .000
R0050:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A5T             1.60     .312 No_date   28:01   66.69  n/a     .000
     Major System  /      1.0 02:A5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:A5-MN           1.60     .312 No_date   28:01   66.69  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH102          72.99    5.823 No_date   28:03   53.92  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:102-103        72.99    5.773 No_date   28:14   53.92  n/a     .000
      [L/S/n=  504./ .280/.013]
      {Vmax= 2.694:Dmax= 1.453}
      [Din= 1.50:Dused= 1.77}
R0050:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:102-103        72.99    5.773 No_date   28:14   53.92  n/a     .000
                   +      1.0 02:A5-MN           1.60     .312 No_date   28:01   66.69  n/a     .000
                SUM=      1.0 01:MH103          74.59    5.961 No_date   28:03   54.19  n/a     .000
R0050:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH103          74.59    5.961 No_date   28:03   54.19  n/a     .000
      fname :MH103.0050
      remark:Total Flows at MH103
R0050:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH103          74.59    5.961 No_date   28:03   54.19  n/a     .000
     [RDT= 1.00] out<-    1.0 01:103-104        74.59    5.915 No_date   28:07   54.19  n/a     .000
      [L/S/n=  438./ .460/.013]
      {Vmax= 3.295:Dmax= 1.301}
      [Din= 1.65:Dused= 1.65}
R0050:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A6              1.56     .306 No_date   28:00   66.69 .818     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   +      1.0 02:A6              1.56     .306 No_date   28:00   66.69  n/a     .000
                SUM=      1.0 01:A6T             1.56     .306 No_date   28:00   66.69  n/a     .000
R0050:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A6T             1.56     .306 No_date   28:00   66.69  n/a     .000
     Major System  /      1.0 02:A6-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:A6-MN           1.56     .306 No_date   28:00   66.69  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A6-MN           1.56     .306 No_date   28:00   66.69  n/a     .000
                   +      1.0 02:103-104        74.59    5.915 No_date   28:07   54.19  n/a     .000
                   +      1.0 02:TODD_MJn       28.89    3.314 No_date   27:54   61.87  n/a     .000
                SUM=      1.0 01:MH104         105.04    9.444 No_date   28:04   56.49  n/a     .000
R0050:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH104         105.04    9.444 No_date   28:04   56.49  n/a     .000
      fname :MH104.0050
      remark:Total Flows at MH104
R0050:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B2             12.31    1.758 No_date   28:02   56.26 .690     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B2             12.31    1.758 No_date   28:02   56.26  n/a     .000
     Major System  /      1.0 02:B2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:B2-MN          12.31    1.029 No_date   27:53   56.54  n/a     .000
      {MjSysSto=.4799E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:B2-MN          12.31    1.029 No_date   27:53   56.54  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:315-333        12.31    1.029 No_date   28:33   56.54  n/a     .000
      [L/S/n=  254./ .100/.013]
      {Vmax= 1.220:Dmax=  .838}
      [Din= 1.20:Dused= 1.20}
R0050:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B3              5.59     .825 No_date   28:01   56.26 .690     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B3              5.59     .825 No_date   28:01   56.26  n/a     .000
     Major System  /      1.0 02:B3-MJ            .02     .083 No_date   28:09   56.26  n/a     .000
     Minor System  \      1.0 03:B3-MN           5.57     .459 No_date   27:52   56.28  n/a     .000
      {MjSysSto=.2270E+03, TotOvfVol=.1279E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B3-MN           5.57     .459 No_date   27:52   56.28  n/a     .000
                   +      1.0 02:315-333        12.31    1.029 No_date   28:33   56.54  n/a     .000
                SUM=      1.0 01:MH333          17.88    1.488 No_date   28:32   56.46  n/a     .000
R0050:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH333          17.88    1.488 No_date   28:32   56.46  n/a     .000
      fname :MH333.0050
      remark:Total Flows at MH333
R0050:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH333          17.88    1.488 No_date   28:32   56.46  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:333-335        17.88    1.479 No_date   28:19   56.46  n/a     .000
      [L/S/n=  251./ .100/.013]
      {Vmax= 1.302:Dmax= 1.057}
      [Din= 1.20:Dused= 1.29}
R0050:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:333-335        17.88    1.479 No_date   28:19   56.46  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:335-338        17.88    1.478 No_date   28:16   56.46  n/a     .000
      [L/S/n=  185./ .100/.013]
      {Vmax= 1.300:Dmax= 1.054}
      [Din= 1.20:Dused= 1.28}
R0050:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:335-338        17.88    1.478 No_date   28:16   56.46  n/a     .000
     [RDT= 1.00] out<-    1.0 01:338-340        17.88    1.454 No_date   28:18   56.46  n/a     .000
      [L/S/n=  233./ .100/.013]
      {Vmax= 1.330:Dmax=  .979}
      [Din= 1.35:Dused= 1.35}
R0050:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B4              7.60    1.094 No_date   28:02   56.26 .690     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B4              7.60    1.094 No_date   28:02   56.26  n/a     .000
     Major System  /      1.0 02:B4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:B4-MN           7.60     .655 No_date   27:53   56.27  n/a     .000
      {MjSysSto=.2780E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:338-340        17.88    1.454 No_date   28:18   56.46  n/a     .000
                   +      1.0 02:B4-MN           7.60     .655 No_date   27:53   56.27  n/a     .000
                SUM=      1.0 01:MH340          25.48    2.109 No_date   28:18   56.41  n/a     .000
R0050:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH340          25.48    2.109 No_date   28:18   56.41  n/a     .000
      fname :MH340.0050
      remark:Total Flows at MH340
R0050:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH340          25.48    2.109 No_date   28:18   56.41  n/a     .000
     [RDT= 1.00] out<-    1.0 01:340-104        25.48    2.090 No_date   28:18   56.41  n/a     .000
      [L/S/n=  240./ .150/.013]
      {Vmax= 1.723:Dmax=  .918}
      [Din= 1.65:Dused= 1.65}
R0050:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:340-104        25.48    2.090 No_date   28:18   56.41  n/a     .000
                   +      1.0 02:MH104         105.04    9.444 No_date   28:04   56.49  n/a     .000
                SUM=      1.0 01:MH104T        130.52   11.391 No_date   28:07   56.48  n/a     .000
R0050:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH104T        130.52   11.391 No_date   28:07   56.48  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:104-105       130.52   11.118 No_date   28:10   56.48  n/a     .000
      [L/S/n=  380./ .100/.013]
      {Vmax= 2.107:Dmax= 2.003}
      {HGTH= 2.36:WDTH= 2.70}
R0050:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B5              2.20     .390 No_date   28:00   60.29 .740     .000
      [XIMP=.57:TIMP=.57]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B5              2.20     .390 No_date   28:00   60.29  n/a     .000
     Major System  /      1.0 02:B5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:B5-MN           2.20     .260 No_date   27:53   60.60  n/a     .000
      {MjSysSto=.5913E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A8               .96     .198 No_date   28:00   66.69 .818     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A6-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   +      1.0 02:A8               .96     .198 No_date   28:00   66.69  n/a     .000
                SUM=      1.0 01:A8T              .96     .198 No_date   28:00   66.69  n/a     .000
R0050:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A8T              .96     .198 No_date   28:00   66.69  n/a     .000
     Major System  /      1.0 02:A8-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:A8-MN            .96     .198 No_date   28:00   66.69  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:104-105       130.52   11.118 No_date   28:10   56.48  n/a     .000
                   +      1.0 02:B5-MN           2.20     .260 No_date   27:53   60.60  n/a     .000
                   +      1.0 02:A8-MN            .96     .198 No_date   28:00   66.69  n/a     .000
                   +      1.0 02:TODD_MN3j        .00     .006 No_date   28:00   60.13  n/a     .000
                SUM=      1.0 01:MH105         133.68   11.441 No_date   28:10   56.62  n/a     .000
R0050:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH105         133.68   11.441 No_date   28:10   56.62  n/a     .000
      fname :MH105.0050
      remark:Total Flows at MH105
R0050:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  DIVERT HYD      ->    1.0 01:A8-MJ            .00     .000 No_date    0:00     .00  n/a     .000
          diverted <=     1.0 02:A8-MJ-JR         .00     .000 No_date    0:00     .00  n/a     .000
          diverted <=     1.0 03:A8-MJ-B6         .00     .000 No_date    0:00     .00  n/a     .000
R0050:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    DIVERT HYD      ->    1.0 01:MH105         133.68   11.441 No_date   28:10   56.62  n/a     .000
          diverted <=     1.0 02:MH105-JR       35.42    8.432 No_date   28:10   56.62  n/a     .000
          diverted <=     1.0 03:MH105-B6       98.26    3.009 No_date   28:10   56.62  n/a     .000
R0050:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B7              7.19    1.124 No_date   28:01   56.26 .690     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   +      1.0 02:B7              7.19    1.124 No_date   28:01   56.26  n/a     .000
                SUM=      1.0 01:B7-B4MJ         7.19    1.124 No_date   28:01   56.26  n/a     .000
R0050:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B7-B4MJ         7.19    1.124 No_date   28:01   56.26  n/a     .000
     Major System  /      1.0 02:B7R-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:B7R-MN          7.19     .629 No_date   27:51   56.37  n/a     .000
      {MjSysSto=.2888E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:B7R-MN          7.19     .629 No_date   27:51   56.37  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:360-106A        7.19     .629 No_date   28:28   56.37  n/a     .000
      [L/S/n=  167./ .100/.013]
      {Vmax= 1.089:Dmax=  .665}
      [Din= 1.05:Dused= 1.05}
R0050:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B6              3.29     .535 No_date   28:00   56.26 .690     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B6              3.29     .535 No_date   28:00   56.26  n/a     .000
     Major System  /      1.0 02:B6-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:B6-MN           3.29     .064 No_date   27:33   56.32  n/a     .000
      {MjSysSto=.6238E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:EX-LAND        32.50    4.637 No_date   28:02   56.33 .691     .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0050:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:EX-LAND        32.50    4.637 No_date   28:02   56.33  n/a     .000
     Major System  /      1.0 02:EX-LAND-MJ       .76    1.533 No_date   28:06   56.33  n/a     .000
     Minor System  \      1.0 03:EX-LAND-MN     31.74    2.275 No_date   27:49   56.55  n/a     .000
      {MjSysSto=.1365E+04, TotOvfVol=.4274E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B7R-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                   +      1.0 02:EX-LAND-MJ       .76    1.533 No_date   28:06   56.33  n/a     .000
                   +      1.0 02:B5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   +      1.0 02:B6-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   +      1.0 02:B6-MN           3.29     .064 No_date   27:33   56.32  n/a     .000
                   +      1.0 02:A8-MJ-B6         .00     .000 No_date    0:00     .00  n/a     .000
                SUM=      1.0 01:B6-B7ExMJ       4.05    1.597 No_date   28:06   56.32  n/a     .000
R0050:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B6-B7ExMJ       4.05    1.597 No_date   28:06   56.32  n/a     .000
     Major System  /      1.0 02:B6R-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \      1.0 03:B6R-MN          4.05     .064 No_date   27:33   56.36  n/a     .000
      {MjSysSto=.4274E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH105-B6       98.26    3.009 No_date   28:10   56.62  n/a     .000
     [RDT= 1.00] out<-    1.0 01:105-106A       98.26    3.009 No_date   28:07   56.62  n/a     .000
      [L/S/n=  208./ .100/.013]
      {Vmax= 1.597:Dmax= 1.249}
      [Din= 1.80:Dused= 1.80}
R0050:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:360-106A        7.19     .629 No_date   28:28   56.37  n/a     .000
                   +      1.0 02:105-106A       98.26    3.009 No_date   28:07   56.62  n/a     .000
                   +      1.0 02:B6R-MN          4.05     .064 No_date   27:33   56.36  n/a     .000
                   +      1.0 02:B6R-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                SUM=      1.0 01:MH106A        109.50    3.701 No_date   28:10   56.59  n/a     .000
R0050:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH106A        109.50    3.701 No_date   28:10   56.59  n/a     .000
      fname :MH106A.0050
      remark:Total Flows at MH106A
R0050:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH106A        109.50    3.701 No_date   28:10   56.59  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:106A-106      109.50    3.702 No_date   27:59   56.59  n/a     .000
      [L/S/n=  190./ .100/.013]
      {Vmax= 1.635:Dmax= 1.487}
      [Din= 1.80:Dused= 1.81]
R0050:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A9              2.44     .481 No_date   28:00   66.69 .818     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
```

```
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A9              2.44      .481 No_date   28:00   66.69  n/a     .000
      Major System   /      1.0 02:A9-MJ            .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A9-MN           2.44      .481 No_date   28:00   66.69  n/a     .000
R0050:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106A-106      109.50     3.702 No_date   27:59   56.59  n/a     .000
                       +    1.0 02:A9-MN           2.44      .481 No_date   28:00   66.69  n/a     .000
                    SUM=    1.0 01:MH106         111.94     4.177 No_date   28:00   56.81  n/a     .000
R0050:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106         111.94     4.177 No_date   28:00   56.81  n/a     .000
        fname :MH106.0050
        remark:Total Flows at MH106
R0050:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH106         111.94     4.177 No_date   28:00   56.81  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:106-107       111.94     4.129 No_date   28:00   56.81  n/a     .000
        [L/S/n=  123./ .100/.013]
        {Vmax= 1.685:Dmax= 1.556}
        [Din= 1.80:Dused= 1.90}
R0050:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A10             4.14      .602 No_date   28:01   53.20 .653     .000
        [XIMP=.35:TIMP=.47]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A10             4.14      .602 No_date   28:01   53.20  n/a     .000
      Major System   /      1.0 02:A10-MJ           .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A10-MN          4.14      .310 No_date   27:50   53.25  n/a     .000
        {MjSysSto=.1897E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A11            10.61     1.720 No_date   28:02   60.69 .745     .000
        [XIMP=.53:TIMP=.62]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A11            10.61     1.720 No_date   28:02   60.69  n/a     .000
      Major System   /      1.0 02:A11-MJ           .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A11-MN         10.61      .993 No_date   27:52   60.86  n/a     .000
        {MjSysSto=.4540E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106-107       111.94     4.129 No_date   28:00   56.81  n/a     .000
                       +    1.0 02:A10-MN          4.14      .310 No_date   27:50   53.25  n/a     .000
                       +    1.0 02:A11-MN         10.61      .993 No_date   27:52   60.86  n/a     .000
                    SUM=    1.0 01:MH107         126.69     5.432 No_date   28:00   57.03  n/a     .000
R0050:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH107         126.69     5.432 No_date   28:00   57.03  n/a     .000
        fname :MH107.0050
        remark:Total Flows at MH107
R0050:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH107         126.69     5.432 No_date   28:00   57.03  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:107-119       126.69     5.345 No_date   28:00   57.03  n/a     .000
        [L/S/n=  114./ .120/.013]
        {Vmax= 1.927:Dmax= 1.660}
        [Din= 1.80:Dused= 2.02}
R0050:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:107-119       126.69     5.345 No_date   28:00   57.03  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:119-108       126.69     5.334 No_date   28:01   57.03  n/a     .000
        [L/S/n=   66./ .120/.013]
        {Vmax= 1.919:Dmax= 1.650}
        [Din= 1.80:Dused= 2.01}
R0050:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A12            12.29     1.938 No_date   28:01   56.26 .690     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A12            12.29     1.938 No_date   28:01   56.26  n/a     .000
      Major System   /      1.0 02:A12-MJ           .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A12-MN         12.29     1.029 No_date   27:50   56.44  n/a     .000
        {MjSysSto=.5545E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A13             2.59      .487 No_date   28:01   66.69 .818     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A13             2.59      .487 No_date   28:01   66.69  n/a     .000
      Major System   /      1.0 02:A13-MJ           .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A13-MN          2.59      .487 No_date   28:01   66.69  n/a     .000
R0050:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Pond-Block      2.94      .430 No_date   28:00   53.21 .653     .000
        [XIMP=.41:TIMP=.41]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:119-108       126.69     5.334 No_date   28:01   57.03  n/a     .000
                       +    1.0 02:A13-MN          2.59      .487 No_date   28:01   66.69  n/a     .000
                       +    1.0 02:A12-MN         12.29     1.029 No_date   27:50   56.44  n/a     .000
                    SUM=    1.0 01:MH108         141.57     6.850 No_date   28:01   57.16  n/a     .000
R0050:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH108         141.57     6.850 No_date   28:01   57.16  n/a     .000
        fname :MH108.0050
        remark:Total Flows at MH108
R0050:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH108         141.57     6.850 No_date   28:01   57.16  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:108-116       141.57     6.810 No_date   28:02   57.16  n/a     .000
        [L/S/n=   77./ .130/.013]
        {Vmax= 2.104:Dmax= 1.784}
        [Din= 1.80:Dused= 2.17}
R0050:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:108-116       141.57     6.810 No_date   28:02   57.16  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:116-corrig    141.57     6.771 No_date   28:02   57.16  n/a     .000
        [L/S/n=   80./ .130/.013]
        {Vmax= 2.101:Dmax= 1.780}
        [Din= 1.80:Dused= 2.17}
R0050:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:116-corrig    141.57     6.771 No_date   28:02   57.16  n/a     .000
                       +    1.0 02:Pond-Block      2.94      .430 No_date   28:00   53.21  n/a     .000
                    SUM=    1.0 01:Corrigan      144.51     7.185 No_date   28:02   57.08  n/a     .000
R0050:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:Corrigan      144.51     7.185 No_date   28:02   57.08  n/a     .000
        fname :Corrigan.0050
        remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0050:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Corrigan      144.51     7.185 No_date   28:02   57.08  n/a     .000
                 out <=     1.0 01:Co-P          144.51     6.335 No_date   28:26   57.08  n/a     .000
            overflow <=     1.0 03:Co-P-OVF         .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1027E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:Co-P-OVF         .00      .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:Co-P          144.51     6.335 No_date   28:26   57.08  n/a     .000
                       +    1.0 02:N_TO        54839.66   128.918 No_date   36:18   34.08  n/a     .000
                       +    1.0 02:MH105-JR       35.42     8.432 No_date   28:10   56.62  n/a     .000
                       +    1.0 02:A8-MJ-JR         .00      .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:A9-MJ            .00      .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:A10-MJ           .00      .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:A11-MJ           .00      .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:A12-MJ           .00      .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:A13-MJ           .00      .000 No_date    0:00     .00  n/a     .000
                    SUM=    1.0 01:corrig      55019.59   129.561 No_date   36:17   34.16  n/a     .000
R0050:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:corrig      55019.59   129.561 No_date   36:17   34.16  n/a     .000
        fname :corrig.0050
        remark:Total Flows at Corrigan Pond
#**************************************************************************
#     Corrigan Pond 1
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
#**************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0050:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:corrig      55019.59   129.561 No_date   36:17   34.16  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_MI        55019.59   129.543 No_date   36:20   34.16  n/a     .000
        [L/S/n=  580./ .445/.045]
        {Vmax= 2.080:Dmax= 2.001}
#**************************************************************************
#     Catchment MILLS
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#**************************************************************************
R0050:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:MILLS         175.99    17.756 No_date   28:06   50.66 .622     .000
        [XIMP=.38:TIMP=.38]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#**************************************************************************
#     Chapman Mills SWM Pond
#     - Rating curve obtained from CCL hydraulic modeling
#**************************************************************************
R0050:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:MILLS         175.99    17.756 No_date   28:06   50.66  n/a     .000
                 out <=     1.0 01:MILL_P        153.87     4.050 No_date   28:11   50.66  n/a     .000
            overflow <=     1.0 03:MIL-OV         22.12    12.440 No_date   28:11   50.66  n/a     .000
      {MxStoUsed=.2310E+01  m3, TotOvfVol=.1121E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0050:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_MI        55019.59   129.543 No_date   36:20   34.16  n/a     .000
                       +    1.0 02:MIL-OV         22.12    12.440 No_date   28:11   50.66  n/a     .000
                       +    1.0 02:MILL_P        153.87     4.050 No_date   28:11   50.66  n/a     .000
                    SUM=    1.0 01:SN_MI       55195.58   130.186 No_date   36:19   34.21  n/a     .000
R0050:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_MI       55195.58   130.186 No_date   36:19   34.21  n/a     .000
        fname :SN_MI.0050
        remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0050:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_MI       55195.58   130.186 No_date   36:19   34.21  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_DE        55195.58   129.897 No_date   36:32   34.21  n/a     .000
        [L/S/n= 1962./ .223/.045]
        {Vmax= 1.586:Dmax= 2.514}
#**************************************************************************
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#**************************************************************************
R0050:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:DESIRE         23.78     2.563 No_date   28:03   46.85 .575     .000
        [XIMP=.25:TIMP=.25]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#**************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#**************************************************************************
R0050:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:JOCKVA        225.13    25.253 No_date   28:07   56.33 .691     .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0050:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:EX-LAND-MN     31.74     2.275 No_date   27:49   56.55  n/a     .000
                       +    1.0 02:JOCKVA        225.13    25.253 No_date   28:07   56.33  n/a     .000
                       +    1.0 02:B2-MJ            .00      .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:B3-MJ            .02      .083 No_date   28:09   56.26  n/a     .000
                    SUM=    1.0 01:JOCKVA-TO     256.89    27.528 No_date   28:07   56.36  n/a     .000
R0050:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:JOCKVA-TO     256.89    27.528 No_date   28:07   56.36  n/a     .000
        fname :JOCKVA-TO.0050
        remark:Total Flows at KB first pond
#**************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#**************************************************************************
R0050:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO     256.89    27.528 No_date   28:07   56.36  n/a     .000
                 out <=     1.0 01:JOCK_P        256.89    10.991 No_date   28:38   56.36  n/a     .000
            overflow <=     1.0 03:JO-OVF           .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5928E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_DE        55195.58   129.897 No_date   36:32   34.21  n/a     .000
                       +    1.0 02:DESIRE         23.78     2.563 No_date   28:03   46.85  n/a     .000
                       +    1.0 02:JO-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:JOCK_P        256.89    10.991 No_date   28:38   56.36  n/a     .000
                    SUM=    1.0 01:SN_DE       55476.26   130.865 No_date   36:30   34.32  n/a     .000
R0050:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_DE       55476.26   130.865 No_date   36:30   34.32  n/a     .000
        fname :SN_DE.0050
        remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0050:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_DE       55476.26   130.865 No_date   36:30   34.32  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N1          55476.26   130.849 No_date   36:34   34.32  n/a     .000
        [L/S/n=  563./ .967/.045]
        {Vmax= 2.136:Dmax= 1.260}
#**************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#**************************************************************************
R0050:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-2           102.94     4.795 No_date   28:20   35.39 .434     .000
        [CN= 72.0: N= 3.00: Tp=  .40]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0050:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N1          55476.26   130.849 No_date   36:34   34.32  n/a     .000
                       +    1.0 02:S-2           102.94     4.795 No_date   28:20   35.39  n/a     .000
                    SUM=    1.0 01:SN_N1       55579.20   131.124 No_date   36:33   34.32  n/a     .000
R0050:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_N1       55579.20   131.124 No_date   36:33   34.32  n/a     .000
        fname :SN_N1.0050
        remark:Total Flows at Rideau River
##########################################################################
  ** END OF RUN :    99

******************************************************************************************






 RUN#:COMMAND#
R0100:C00001----------------------------------------------------------------------------
      START
        [TZERO =    .00 hrs on        0]
        [METOUT=  2   (1=imperial, 2=metric output)]
        [NSTORM=  1 ]
        [NRUN  = 0100 ]
#**************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date         : 04-03-2021
#  Modeller     : [MM]
#  Company      : JFSAinc.
#  License #    :  2549237
#**************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# -------------------------------------------------------------------------
R0100:C00002----------------------------------------------------------------------------
      READ STORM
        Filename = storm.001
        Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
        [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
R0100:C00003----------------------------------------------------------------------------
      MODIFY STORM
        [RFACT=  1.00:TSHIFT= 960.00 min]
        [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
R0100:C00004----------------------------------------------------------------------------
      DEFAULT VALUES
        Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
        ICASEdv  = 1 (read and print data)
        FileTitle= File comment: [Based onvarious calibration exercises in Onta
                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
        Horton's infiltration equation parameters:
        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
        Parameters for PERVIOUS surfaces in STANDHYD:
        [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
        Parameters for IMPERVIOUS surfaces in STANDHYD:
        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
        Parameters used in NASHYD:
        [Ia=   4.67 mm] [N= 3.00]
        Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
        Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0100:C00005----------------------------------------------------------------------------
      COMPUTE API
        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
        {APImax=119.84: APIavg= 69.19: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0100:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:JR_HW        3680.00    21.616 No_date   36:52   35.18 .397     .000
        [CN= 64.0: N= 3.00: Tp= 7.13]
        [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0100:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_13         971.00     8.203 No_date   32:33   32.84 .371     .000
        [CN= 61.0: N= 3.00: Tp= 3.76]
        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
        [InterEventTime=  12.00]
#
```

```
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00   10.428 No_date   39:59   28.29 .319      .000
      [CN= 55.0: N= 3.00: Tp=11.33]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
R0100:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   19.695 No_date   32:38   42.49 .480      .000
      [CN= 72.0: N= 3.00: Tp= 3.91]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0100:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_11        500.00   10.735 No_date   29:21   36.76 .415      .000
      [CN= 66.0: N= 3.00: Tp= 1.24]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00   14.496 No_date   34:24   36.76 .415      .000
      [CN= 66.0: N= 3.00: Tp= 5.29]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0100:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   37.663 No_date   37:48   42.49 .480      .000
      [CN= 72.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0100:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   36.118 No_date   39:59   36.76 .415      .000
      [CN= 66.0: N= 3.00: Tp=11.66]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0100:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_9        1132.00   16.501 No_date   30:52   40.82 .461      .000
      [CN= 70.0: N= 3.00: Tp= 2.51]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0100:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   18.060 No_date   39:59   33.61 .380      .000
      [CN= 62.0: N= 3.00: Tp=11.32]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_8         131.00    3.259 No_date   28:57   34.39 .388      .000
      [CN= 63.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0100:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   21.238 No_date   38:28   36.76 .415      .000
      [CN= 66.0: N= 3.00: Tp= 8.42]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0100:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_7        3197.00   16.421 No_date   36:21   29.79 .336      .000
      [CN= 57.0: N= 3.00: Tp= 6.65]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0100:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_6         165.00    1.511 No_date   33:01   37.57 .424      .000
      [CN= 67.0: N= 3.00: Tp= 4.18]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0100:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00   10.882 No_date   35:10   42.49 .480      .000
      [CN= 72.0: N= 3.00: Tp= 5.95]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0100:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5         224.00    9.576 No_date   28:44   47.62 .538      .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0100:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   52.056 No_date   33:16   44.17 .499      .000
      [CN= 74.0: N= 3.00: Tp= 4.45]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
R0100:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00    1.097 No_date   28:35   52.06 .588      .000
      [CN= 81.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0100:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00   10.184 No_date   37:44   45.88 .518      .000
      [CN= 75.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
R0100:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_4         585.00   14.953 No_date   29:55   52.06 .588      .000
      [CN= 81.0: N= 3.00: Tp= 1.75]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0100:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   19.782 No_date   30:45   51.16 .578      .000
      [CN= 80.0: N= 3.00: Tp= 2.46]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
R0100:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_2         177.00    7.567 No_date   28:44   47.62 .538      .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00   17.981 No_date   31:42   52.06 .588      .000
      [CN= 81.0: N= 3.00: Tp= 3.25]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0100:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:MD_DR       2737.00   40.730 No_date   31:28   46.75 .528      .000
      [CN= 76.0: N= 3.00: Tp= 3.03]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0100:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:JR_HW      3680.00   21.616 No_date   36:52   35.18  n/a      .000
                     +      1.0 02:SW_13       971.00    8.203 No_date   32:33   32.84  n/a      .000
                  SUM=      1.0 01:S_N13      4651.00   27.660 No_date   35:21   34.69  n/a      .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0100:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N13      4651.00   27.660 No_date   35:21   34.69  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N13A       4651.00   22.598 No_date   38:56   34.69  n/a      .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .598:Dmax= 4.178}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0100:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N13A       4651.00   22.598 No_date   38:56   34.69  n/a      .000
                     +      1.0 02:JR_GWM     3074.00   10.428 No_date   39:59   28.29  n/a      .000
                  SUM=      1.0 01:SN13A      7725.00   32.845 No_date   39:44   32.14  n/a      .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0100:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:SN13A      7725.00   32.845 No_date   39:44   32.14  n/a      .000
                out <=      1.0 01:RES_GM     7725.00    3.950 No_date   62:26   32.14  n/a      .000
     {MxStoUsed=.1796E+03  m3}
#
R0100:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:RES_GM     7725.00    3.950 No_date   62:26   32.14  n/a      .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0100:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:RES_GM     7725.00    3.950 No_date   62:26   32.14  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N12        7725.00    3.947 No_date   64:43   32.14  n/a      .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .560:Dmax= 1.560}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0100:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N12        7725.00    3.947 No_date   64:43   32.14  n/a      .000
                     +      1.0 02:JR_ASH     1781.00   19.695 No_date   32:38   42.49  n/a      .000
                  SUM=      1.0 01:S_N12      9506.00   21.745 No_date   32:41   34.08  n/a      .000
R0100:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N12      9506.00   21.745 No_date   32:41   34.08  n/a      .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0100:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N12      9506.00   21.745 No_date   32:41   34.08  n/a      .000
     [RDT= 1.00] out<-      1.0 01:Dum11      9506.00   21.522 No_date   32:57   34.08  n/a      .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .777:Dmax= 3.194}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0100:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:Dum11      9506.00   21.522 No_date   32:57   34.08  n/a      .000
                     +      1.0 02:SW_11       500.00   10.735 No_date   29:21   36.76  n/a      .000
                     +      1.0 02:NN_CK      1917.00   14.496 No_date   34:24   36.76  n/a      .000
                  SUM=      1.0 01:S_N11     11923.00   38.138 No_date   32:59   34.62  n/a      .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0100:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N11     11923.00   38.138 No_date   32:59   34.62  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N10       11923.00   23.609 No_date   39:19   34.62  n/a      .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .486:Dmax= 1.492}
#
# Addition of Subwatershed 10 to Node 10
#
R0100:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N10       11923.00   23.609 No_date   39:19   34.62  n/a      .000
                     +      1.0 02:SW_10      5666.00   37.663 No_date   37:48   42.49  n/a      .000
                  SUM=      1.0 01:S_N10     17589.00   61.058 No_date   38:16   37.16  n/a      .000
R0100:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N10     17589.00   61.058 No_date   38:16   37.16  n/a      .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0100:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S_N10     17589.00   61.058 No_date   38:16   37.16  n/a      .000
                     +      1.0 02:KG_CK      8376.00   36.118 No_date   39:59   36.76  n/a      .000
                  SUM=      1.0 01:S_N10A    25965.00   96.054 No_date   39:40   37.03  n/a      .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0100:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N10A    25965.00   96.054 No_date   39:40   37.03  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N9        25965.00   94.262 No_date   39:59   37.03  n/a      .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .775:Dmax= 2.151}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0100:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N9        25965.00   94.262 No_date   39:59   37.03  n/a      .000
                     +      1.0 02:SW_9       1132.00   16.501 No_date   30:52   40.83  n/a      .000
                     +      1.0 02:NC_CK      4464.00   18.060 No_date   39:59   33.61  n/a      .000
                  SUM=      1.0 01:S_N9      31561.00  115.681 No_date   39:59   36.68  n/a      .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0100:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N9      31561.00  115.681 No_date   39:59   36.68  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N8        31561.00  109.395 No_date   39:59   36.68  n/a      .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .374:Dmax= 1.924}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0100:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N8        31561.00  109.395 No_date   39:59   36.68  n/a      .000
                     +      1.0 02:SW_8        131.00    3.259 No_date   28:57   34.39  n/a      .000
                     +      1.0 02:HB_DR      3854.00   21.238 No_date   38:28   36.76  n/a      .000
                  SUM=      1.0 01:S_N8      35546.00  130.593 No_date   39:59   36.68  n/a      .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0100:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N8      35546.00  130.593 No_date   39:59   36.68  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N7        35546.00  111.942 No_date   44:52   36.68  n/a      .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .237:Dmax= 2.412}
#
# Addition of Subwatershed 7 to Node 7
#
R0100:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N7        35546.00  111.942 No_date   44:52   36.68  n/a      .000
                     +      1.0 02:SW_7       3197.00   16.421 No_date   36:21   29.79  n/a      .000
                  SUM=      1.0 01:S_N7      38743.00  120.740 No_date   43:36   36.11  n/a      .000
R0100:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N7      38743.00  120.740 No_date   43:36   36.11  n/a      .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0100:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S_N7      38743.00  120.740 No_date   43:36   36.11  n/a      .000
                out <=      1.0 01:RES_RF    38743.00   62.351 No_date   58:25   36.11  n/a      .000
     {MxStoUsed=.5140E+03  m3}
R0100:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:RES_RF    38743.00   62.351 No_date   58:25   36.11  n/a      .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0100:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:RES_RF    38743.00   62.351 No_date   58:25   36.11  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N6        38743.00   62.067 No_date   59:46   36.11  n/a      .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .556:Dmax= 1.373}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0100:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N6        38743.00   62.067 No_date   59:46   36.11  n/a      .000
                     +      1.0 02:SW_6        165.00    1.511 No_date   33:01   37.57  n/a      .000
                     +      1.0 02:VG_DR      1332.00   10.882 No_date   35:10   42.49  n/a      .000
                  SUM=      1.0 01:S_N6      40240.01   62.114 No_date   59:39   36.33  n/a      .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0100:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N6      40240.01   62.114 No_date   59:39   36.33  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N5        40240.01   61.991 No_date   60:21   36.33  n/a      .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .494:Dmax= 1.468}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0100:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N5        40240.01   61.991 No_date   60:21   36.33  n/a      .000
                     +      1.0 02:SW_5        224.00    9.576 No_date   28:44   47.62  n/a      .000
                     +      1.0 02:FL_CK      4945.00   52.056 No_date   33:16   44.17  n/a      .000
                  SUM=      1.0 01:S_N5      45409.01   80.898 No_date   34:11   37.24  n/a      .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0100:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N5      45409.01   80.898 No_date   34:11   37.24  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N5A       45409.01   80.666 No_date   34:28   37.24  n/a      .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .546:Dmax= 1.353}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0100:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N5A       45409.01   80.666 No_date   34:28   37.24  n/a      .000
                     +      1.0 02:SW_5A2       20.00    1.097 No_date   28:35   52.06  n/a      .000
                     +      1.0 02:SW_5A1     1412.00   10.184 No_date   37:44   45.88  n/a      .000
                  SUM=      1.0 01:S_N5A     46841.01   89.756 No_date   34:38   37.51  n/a      .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
```

```
#
R0100:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N5A       46841.01   89.756 No_date   34:38   37.51  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N4          46841.01   85.943 No_date   36:10   37.51  n/a      .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .904:Dmax= 3.866}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0100:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N4          46841.01   85.943 No_date   36:10   37.51  n/a      .000
                   +      1.0 02:SW_4          585.00   14.953 No_date   29:55   52.06  n/a      .000
                   +      1.0 02:LM_CK        1021.00   19.782 No_date   30:45   51.16  n/a      .000
                SUM=      1.0 01:S_N4        48447.00   96.618 No_date   35:12   37.97  n/a      .000
R0100:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N4        48447.00   96.618 No_date   35:12   37.97  n/a      .000
      fname :S_N4.0100
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0100:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N4        48447.00   96.618 No_date   35:12   37.97  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N2          48447.00   96.322 No_date   35:13   37.97  n/a      .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .944:Dmax= 3.929}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0100:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N2          48447.00   96.322 No_date   35:13   37.97  n/a      .000
                   +      1.0 02:SW_2          177.00    7.567 No_date   28:44   47.62  n/a      .000
                   +      1.0 02:SM_DR        1122.00   17.981 No_date   31:42   52.06  n/a      .000
                   +      1.0 02:MO_DR        2737.00   40.730 No_date   31:28   46.75  n/a      .000
                SUM=      1.0 01:S_N2        52483.00  143.580 No_date   32:59   38.76  n/a      .000
R0100:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N2        52483.00  143.580 No_date   32:59   38.76  n/a      .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0100:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N2        52483.00  143.580 No_date   32:59   38.76  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N_416       52483.00  139.298 No_date   33:45   38.76  n/a      .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .801:Dmax= 3.814}
#****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#****************************************************************************
R0100:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_1a         536.42    7.274 No_date   31:14   40.95 .462      .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0100:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-Okeefe     44.93    1.446 No_date   29:06   45.95 .519      .000
      [CN= 77.0: N= 3.00: Tp= 1.05]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_416       52483.00  139.298 No_date   33:45   38.76  n/a      .000
                   +      1.0 02:SW_1a         536.42    7.274 No_date   31:14   40.95  n/a      .000
                   +      1.0 02:S-1-Okeefe     44.93    1.446 No_date   29:06   45.95  n/a      .000
                SUM=      1.0 01:SN_416      53064.36  145.020 No_date   33:31   38.79  n/a      .000
R0100:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_416      53064.36  145.020 No_date   33:31   38.79  n/a      .000
      fname :SN_416.0100
      remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0100:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_416      53064.36  145.020 No_date   33:31   38.79  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N_OK        53064.36  144.944 No_date   33:32   38.79  n/a      .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.728:Dmax= 3.267}
#****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#****************************************************************************
R0100:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-1            63.72    1.380 No_date   28:58   30.74 .347      .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
R0100:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:O-1            63.72    1.380 No_date   28:58   30.74  n/a      .000
     [RDT= 1.00] out<-    1.0 01:O-1R           63.72    1.307 No_date   29:13   30.74  n/a      .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .926:Dmax=  .493}
R0100:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-2            28.61     .485 No_date   29:13   28.38 .320      .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
R0100:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-4            46.94     .650 No_date   28:59   21.79 .246      .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime=  12.00]
R0100:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:O-1R           63.72    1.307 No_date   29:13   30.74  n/a      .000
                   +      1.0 02:O-2            28.61     .485 No_date   29:13   28.38  n/a      .000
                   +      1.0 02:O-4            46.94     .650 No_date   28:59   21.79  n/a      .000
                SUM=      1.0 01:OKF-N         139.27    2.427 No_date   29:10   27.24  n/a      .000
R0100:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:OKF-N         139.27    2.427 No_date   29:10   27.24  n/a      .000
     [RDT= 1.00] out<-    1.0 01:OKF-NR        139.27    2.423 No_date   29:12   27.24  n/a      .000
      [L/S/n=  210./ .810/.043]
      {Vmax= 1.130:Dmax=  .796}
R0100:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-6            16.46     .220 No_date   28:45   18.67 .211      .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime=  12.00]
R0100:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:O-3            39.67    1.454 No_date   28:21   32.90 .371      .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0100:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:O-5            60.63    3.669 No_date   28:10   38.00 .429      .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0100:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:OKF-NR        139.27    2.423 No_date   29:12   27.24  n/a      .000
                   +      1.0 02:O-3            39.67    1.454 No_date   28:21   32.90  n/a      .000
                   +      1.0 02:O-5            60.63    3.669 No_date   28:10   38.00  n/a      .000
                   +      1.0 02:O-6            16.46     .220 No_date   28:45   18.67  n/a      .000
                SUM=      1.0 01:PT1           256.03    5.938 No_date   28:19   30.11  n/a      .000
R0100:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-7             5.28     .117 No_date   28:37   25.16 .284      .000
      [CN= 54.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
      [InterEventTime=  12.00]
R0100:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:PT1           256.03    5.938 No_date   28:19   30.11  n/a      .000
                   +      1.0 02:O-7             5.28     .117 No_date   28:37   25.16  n/a      .000
                SUM=      1.0 01:FF            261.31    6.036 No_date   28:19   30.01  n/a      .000
R0100:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:FF            261.31    6.036 No_date   28:19   30.01  n/a      .000
     [RDT= 1.00] out<-    1.0 01:DRAIN1        261.31    5.843 No_date   28:23   30.01  n/a      .000
      [L/S/n=  302./1.000/.043]
      {Vmax=  .853:Dmax=  .797}
R0100:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D1              1.17     .110 No_date   28:12   50.22 .567      .000
      [CN= 84.0: N= 3.00: Tp=  .28]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0100:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A1              2.50     .572 No_date   28:01   70.42 .795      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A1              2.50     .572 No_date   28:01   70.42  n/a      .000
                 out <=   1.0 01:A1-STR          2.50     .173 No_date   28:17   70.42  n/a      .000
            overflow <=   1.0 03:A1-OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.7765E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-2             .59     .115 No_date   28:00   55.78 .630      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-2             .59     .115 No_date   28:00   55.78  n/a      .000
                 out <=   1.0 01:ST2STR           .59     .053 No_date   28:13   55.78  n/a      .000
            overflow <=   1.0 03:ST2OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.5215E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-8            60.55    1.639 No_date   29:04   38.99 .440      .000
      [CN= 69.0: N= 3.00: Tp= 1.00]
      [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
      [InterEventTime=  12.00]
R0100:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:O-8            60.55    1.639 No_date   29:04   38.99  n/a      .000
     [RDT= 1.00] out<-    1.0 01:O8PIPE         60.55    1.631 No_date   29:07   38.99  n/a      .000
      [L/S/n=  335./ .100/.013]
      {Vmax= 1.305:Dmax=  .697}
      {HGTH= 1.20:WDTH= 1.80}
R0100:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN1        261.31    5.843 No_date   28:23   30.01  n/a      .000
                   +      1.0 02:D1              1.17     .110 No_date   28:12   50.22  n/a      .000
                   +      1.0 02:A1-STR          2.50     .173 No_date   28:17   70.42  n/a      .000
                   +      1.0 02:A1-OVF           .00     .000 No_date    0:00     .00  n/a      .000
                   +      1.0 02:ST2STR           .59     .053 No_date   28:13   55.78  n/a      .000
                   +      1.0 02:ST2OVF           .00     .000 No_date    0:00     .00  n/a      .000
                   +      1.0 02:O8PIPE         60.55    1.631 No_date   29:07   38.99  n/a      .000
                SUM=      1.0 01:ST2-IN        326.12    7.203 No_date   28:33   32.11  n/a      .000
R0100:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A7              3.51     .784 No_date   28:01   70.42 .795      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A7              3.51     .784 No_date   28:01   70.42  n/a      .000
                 out <=   1.0 01:A7-STR          3.51     .240 No_date   28:18   70.42  n/a      .000
            overflow <=   1.0 03:A7-OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1088E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-3             .71     .138 No_date   28:00   55.78 .630      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-3             .71     .138 No_date   28:00   55.78  n/a      .000
                 out <=   1.0 01:ST3STR           .71     .064 No_date   28:13   55.78  n/a      .000
            overflow <=   1.0 03:ST3OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.6043E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:ST2-IN        326.12    7.203 No_date   28:33   32.11  n/a      .000
                   +      1.0 02:A7-STR          3.51     .240 No_date   28:18   70.42  n/a      .000
                   +      1.0 02:A7-OVF           .00     .000 No_date    0:00     .00  n/a      .000
                   +      1.0 02:ST3STR           .71     .064 No_date   28:13   55.78  n/a      .000
                   +      1.0 02:ST3OVF           .00     .000 No_date    0:00     .00  n/a      .000
                SUM=      1.0 01:PT2ST3        330.34    7.487 No_date   28:31   32.57  n/a      .000
R0100:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:PT2ST3        330.34    7.487 No_date   28:31   32.57  n/a      .000
     [RDT= 1.00] out<-    1.0 01:DRAIN2        330.34    6.868 No_date   28:55   32.57  n/a      .000
      [L/S/n=  592./ .230/.043]
      {Vmax=  .611:Dmax= 1.215}
R0100:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D2              2.28     .087 No_date   29:02   50.22 .567      .000
      [CN= 84.0: N= 3.00: Tp=  .99]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0100:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A17            12.04    2.382 No_date   28:03   70.42 .795      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A17            12.04    2.382 No_date   28:03   70.42  n/a      .000
                 out <=   1.0 01:A17STR         12.04     .801 No_date   28:24   70.42  n/a      .000
            overflow <=   1.0 03:A17OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.3671E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-4             .35     .069 No_date   28:00   55.78 .630      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-4             .35     .069 No_date   28:00   55.78  n/a      .000
                 out <=   1.0 01:ST4STR           .35     .032 No_date   28:13   55.78  n/a      .000
            overflow <=   1.0 03:ST4OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.3372E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A18             5.30    1.139 No_date   28:01   70.42 .795      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A18             5.30    1.139 No_date   28:01   70.42  n/a      .000
                 out <=   1.0 01:A18STR          5.30     .360 No_date   28:20   70.42  n/a      .000
            overflow <=   1.0 03:A18OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1636E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN2        330.34    6.868 No_date   28:55   32.57  n/a      .000
                   +      1.0 02:D2              2.28     .087 No_date   29:02   50.22  n/a      .000
                   +      1.0 02:A17STR         12.04     .801 No_date   28:24   70.42  n/a      .000
                   +      1.0 02:A17OVF           .00     .000 No_date    0:00     .00  n/a      .000
                   +      1.0 02:ST4STR           .35     .032 No_date   28:13   55.78  n/a      .000
                   +      1.0 02:ST4OVF           .00     .000 No_date    0:00     .00  n/a      .000
                   +      1.0 02:A18STR          5.30     .360 No_date   28:20   70.42  n/a      .000
                   +      1.0 02:A18OVF           .00     .000 No_date    0:00     .00  n/a      .000
                SUM=      1.0 01:PT3ST4        350.31    7.785 No_date   28:52   34.58  n/a      .000
R0100:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:PT3ST4        350.31    7.785 No_date   28:52   34.58  n/a      .000
     [RDT= 1.00] out<-    1.0 01:DRAIN3        350.31    7.474 No_date   29:08   34.58  n/a      .000
      [L/S/n=  525./ .230/.043]
      {Vmax=  .628:Dmax= 1.257}
R0100:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D3              2.51     .132 No_date   28:43   54.04 .610      .000
      [CN= 86.0: N= 3.00: Tp=  .73]
      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
      [InterEventTime=  12.00]
R0100:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:C1              3.41     .763 No_date   28:01   70.42 .795      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:C1              3.41     .763 No_date   28:01   70.42  n/a      .000
                 out <=   1.0 01:C1-STR          3.41     .232 No_date   28:18   70.42  n/a      .000
            overflow <=   1.0 03:C1-OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1056E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-5             .45     .088 No_date   28:00   55.78 .630      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-5             .45     .088 No_date   28:00   55.78  n/a      .000
                 out <=   1.0 01:ST5STR           .45     .041 No_date   28:13   55.78  n/a      .000
            overflow <=   1.0 03:ST5OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.4111E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN3        350.31    7.474 No_date   29:08   34.58  n/a      .000
                   +      1.0 02:D3              2.51     .132 No_date   28:43   54.04  n/a      .000
                   +      1.0 02:C1-STR          3.41     .232 No_date   28:18   70.42  n/a      .000
                   +      1.0 02:C1-OVF           .00     .000 No_date    0:00     .00  n/a      .000
                   +      1.0 02:ST5STR           .45     .041 No_date   28:13   55.78  n/a      .000
                   +      1.0 02:ST5OVF           .00     .000 No_date    0:00     .00  n/a      .000
                SUM=      1.0 01:ST5-E         356.68    7.731 No_date   29:07   35.08  n/a      .000
R0100:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:STRAND          7.59    1.163 No_date   28:08   68.85 .777      .000
      [XIMP=.64:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:STRAND          7.59    1.163 No_date   28:08   68.85  n/a      .000
                 out <=   1.0 01:S-POND          7.59     .200 No_date   29:01   68.85  n/a      .000
            overflow <=   1.0 03:S-OVF            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.3382E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:ST5-E         356.68    7.731 No_date   29:07   35.08  n/a      .000
                   +      1.0 02:S-POND          7.59     .200 No_date   29:01   68.85  n/a      .000
                   +      1.0 02:S-OVF            .00     .000 No_date    0:00     .00  n/a      .000
                SUM=      1.0 01:SSAOUT        364.27    7.924 No_date   29:06   35.79  n/a      .000
R0100:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SSAOUT        364.27    7.924 No_date   29:06   35.79  n/a      .000
      fname :SSAOUT.0100
      remark:SSAOUT
R0100:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Area-A         66.75    9.945 No_date   28:08   67.64 .764      .000
      [XIMP=.64:TIMP=.80]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:Area-A         66.75    9.945 No_date   28:08   67.64  n/a      .000
      fname :Area-A.0100
```

```
      remark:SMWF-A Inflow
R0100:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:Area-A         66.75     9.945 No_date   28:08   67.64  n/a     .000
                 out <=    1.0 01:SWMF-A         66.75     1.357 No_date   29:10   67.64  n/a     .000
            overflow <=    1.0 03:SWMAOV           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3051E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SWMF-A         66.75     1.357 No_date   29:10   67.64  n/a     .000
      fname :SWMF-A.0100
      remark:SMWF-A Outflow
R0100:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:SSAOUT        364.27     7.924 No_date   29:06   35.79  n/a     .000
                     +     1.0 02:SWMF-A         66.75     1.357 No_date   29:10   67.64  n/a     .000
                     +     1.0 02:SWMAOV           .00      .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT4ST5        431.02     9.279 No_date   29:07   40.72  n/a     .000
R0100:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:C6              1.87      .433 No_date   28:01   70.42 .795     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:C6              1.87      .433 No_date   28:01   70.42  n/a     .000
                 out <=    1.0 01:C6-STR          1.87      .129 No_date   28:16   70.42  n/a     .000
            overflow <=    1.0 03:C6-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5845E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:C7              1.62      .381 No_date   28:00   70.42 .795     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:C7              1.62      .381 No_date   28:00   70.42  n/a     .000
                 out <=    1.0 01:C7-STR          1.62      .112 No_date   28:16   70.42  n/a     .000
            overflow <=    1.0 03:C7-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5036E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:ST-6             .41      .081 No_date   28:00   55.78 .630     .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:ST-6             .41      .081 No_date   28:00   55.78  n/a     .000
                 out <=    1.0 01:ST6STR           .41      .037 No_date   28:13   55.78  n/a     .000
            overflow <=    1.0 03:ST6OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3877E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:PT4ST5        431.02     9.279 No_date   29:07   40.72  n/a     .000
                     +     1.0 02:C6-STR          1.87      .129 No_date   28:16   70.42  n/a     .000
                     +     1.0 02:C6-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:C7-STR          1.62      .112 No_date   28:16   70.42  n/a     .000
                     +     1.0 02:C7-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST6STR           .41      .037 No_date   28:13   55.78  n/a     .000
                     +     1.0 02:ST6OVF           .00      .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT5ST6        434.92     9.426 No_date   29:06   40.97  n/a     .000
R0100:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:PT5ST6        434.92     9.426 No_date   29:06   40.97  n/a     .000
     [RDT= 1.00] out<-     1.0 01:DRAIN4        434.92     9.061 No_date   29:16   40.97  n/a     .000
      [L/S/n=  324./ .100/.043]
      {Vmax=  .507:Dmax= 1.619}
R0100:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D4              1.73      .112 No_date   28:33   57.07 .644     .000
      [CN= 88.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
      [InterEventTime=  12.00]
R0100:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:Area-B         24.04     4.871 No_date   28:02   66.17 .747     .000
      [XIMP=.62:TIMP=.77]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:Area-B         24.04     4.871 No_date   28:02   66.17  n/a     .000
                 out <=    1.0 01:SWMF-B         24.04      .641 No_date   28:41   66.17  n/a     .000
            overflow <=    1.0 03:SWMBOVF          .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.9727E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:DRAIN4        434.92     9.061 No_date   29:16   40.97  n/a     .000
                     +     1.0 02:D4              1.73      .112 No_date   28:33   57.07  n/a     .000
                     +     1.0 02:SWMF-B         24.04      .641 No_date   28:41   66.17  n/a     .000
                     +     1.0 02:SWMBOVF          .00      .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:D4-EX         460.69     9.722 No_date   29:15   42.35  n/a     .000
R0100:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:D4-EX         460.69     9.722 No_date   29:15   42.35  n/a     .000
     [RDT= 1.00] out<-     1.0 01:DRAIN5        460.69     9.564 No_date   29:26   42.35  n/a     .000
      [L/S/n=  413./ .160/.033]
      {Vmax=  .703:Dmax= 1.106}
R0100:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D5              1.90      .104 No_date   28:40   54.04 .610     .000
      [CN= 86.0: N= 3.00: Tp=  .69]
      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
      [InterEventTime=  12.00]
R0100:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-13SDF         9.74      .675 No_date   28:21   50.83 .574     .000
      [CN= 81.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0100:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:O-13SDF         9.74      .675 No_date   28:21   50.83  n/a     .000
                 out <=    1.0 01:SDF             9.74      .070 No_date   30:50   50.83  n/a     .000
            overflow <=    1.0 03:OVFSDF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2813E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:DRAIN5        460.69     9.564 No_date   29:26   42.35  n/a     .000
                     +     1.0 02:D5              1.90      .104 No_date   28:40   54.04  n/a     .000
                     +     1.0 02:SDF             9.74      .070 No_date   30:50   50.83  n/a     .000
                  SUM=     1.0 01:PT6MC         472.33     9.694 No_date   29:26   42.57  n/a     .000
R0100:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-15           10.67      .940 No_date   28:13   49.72 .561     .000
      [CN= 82.0: N= 3.00: Tp=  .30]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0100:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:PT6MC         472.33     9.694 No_date   29:26   42.57  n/a     .000
                     +     1.0 02:O-15           10.67      .940 No_date   28:13   49.72  n/a     .000
                  SUM=     1.0 01:M-C           483.00     9.844 No_date   29:26   42.73  n/a     .000
R0100:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:M-C           483.00     9.844 No_date   29:26   42.73  n/a     .000
     [RDT= 1.00] out<-     1.0 01:O-14Ch        483.00     8.880 No_date   29:52   42.73  n/a     .000
      [L/S/n=  845./ .100/.033]
      {Vmax=  .556:Dmax= 1.861}
R0100:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-14            5.00      .722 No_date   28:04   49.72 .561     .000
      [CN= 82.0: N= 3.00: Tp=  .13]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0100:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:O-14Ch        483.00     8.880 No_date   29:52   42.73  n/a     .000
                     +     1.0 02:O-14            5.00      .722 No_date   28:04   49.72  n/a     .000
                  SUM=     1.0 01:OKEEFE        488.00     8.925 No_date   29:52   42.80  n/a     .000
#****************************************************************************
#     Okeefe Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#****************************************************************************
R0100:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-D2         18.67      .573 No_date   29:11   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.12]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-D3          6.79      .189 No_date   29:23   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.28]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_OK        53064.36   144.944 No_date   33:32   38.79  n/a     .000
                     +     1.0 02:OKEEFE        488.00     8.925 No_date   29:52   42.80  n/a     .000
                     +     1.0 02:S-1-D2         18.67      .573 No_date   29:11   45.95  n/a     .000
                     +     1.0 02:S-1-D3          6.79      .189 No_date   29:23   45.95  n/a     .000
                  SUM=     1.0 01:SN_OK       53577.82   147.990 No_date   33:31   38.83  n/a     .000
R0100:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_OK       53577.82   147.990 No_date   33:31   38.83  n/a     .000
      fname :SN_OK.0100
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0100:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_OK       53577.82   147.990 No_date   33:31   38.83  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_FO        53577.82   147.849 No_date   33:32   38.83  n/a     .000
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.294:Dmax= 3.587}
#****************************************************************************
#     Catchment FOSTER
#     - To Foster ditch (north of the Jock)
#     - Partially developed (medium density); remaining agricultural
#     - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#     - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#     - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#****************************************************************************
R0100:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:FOSTER        325.44    36.526 No_date   28:10   65.13 .735     .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
#****************************************************************************
#     Foster Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#****************************************************************************
R0100:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:FOSTER        325.44    36.526 No_date   28:10   65.13  n/a     .000
                 out <=    1.0 01:P_FOS         325.44     9.091 No_date   29:01   65.13  n/a     .000
            overflow <=    1.0 03:FO-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.8792E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:P_FOS         325.44     9.091 No_date   29:01   65.13  n/a     .000
                     +     1.0 02:FO-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:FOSTER-OUT    325.44     9.091 No_date   29:01   65.13  n/a     .000
#****************************************************************************
R0100:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA     73.29    11.683 No_date   28:05   70.23 .793     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA     73.29    11.683 No_date   28:05   70.23  n/a     .000
                 out <=    1.0 01:MS_P10         73.29     1.240 No_date   29:12   70.23  n/a     .000
            overflow <=    1.0 03:P10-OVF          .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2223E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-FO-D2       4.94      .154 No_date   29:10   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:FOSTER-OUT    325.44     9.091 No_date   29:01   65.13  n/a     .000
                     +     1.0 02:S-1-FO-D2       4.94      .154 No_date   29:10   45.95  n/a     .000
                  SUM=     1.0 01:980           330.38     9.242 No_date   29:01   64.84  n/a     .000
R0100:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:980           330.38     9.242 No_date   29:01   64.84  n/a     .000
      fname :980.0100
      remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0100:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:980           330.38     9.242 No_date   29:01   64.84  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:980-out       330.38     8.718 No_date   29:20   64.84  n/a     .000
      [L/S/n=  460./ .043/.035]
      {Vmax=  .535:Dmax= 1.674}
R0100:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-FO-D1       5.11      .159 No_date   29:10   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:980-out       330.38     8.718 No_date   29:20   64.84  n/a     .000
                     +     1.0 02:S-1-FO-D1       5.11      .159 No_date   29:10   45.95  n/a     .000
                  SUM=     1.0 01:520           335.49     8.875 No_date   29:20   64.55  n/a     .000
R0100:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:520           335.49     8.875 No_date   29:20   64.55  n/a     .000
      fname :520.0100
      remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0100:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:520           335.49     8.875 No_date   29:20   64.55  n/a     .000
     [RDT= 1.00] out<-     1.0 01:520-out       335.49     8.790 No_date   29:26   64.55  n/a     .000
      [L/S/n=  860./ .587/.035]
      {Vmax= 1.604:Dmax=  .806}
R0100:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-FO-F-D     14.96      .496 No_date   29:03   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.01]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D8          5.27     1.102 No_date   28:00   70.58 .797     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-A          75.88     3.578 No_date   28:36   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:W_CLAR_UND     35.65     1.108 No_date   29:10   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_FO        53577.82   147.849 No_date   33:32   38.83  n/a     .000
                     +     1.0 02:520-out       335.49     8.790 No_date   29:26   64.55  n/a     .000
                     +     1.0 02:MS_P10         73.29     1.240 No_date   29:12   70.23  n/a     .000
                     +     1.0 02:P10-OVF          .00      .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:W_CLAR_UND     35.65     1.108 No_date   29:10   45.95  n/a     .000
                     +     1.0 02:S-1-FO-F-D     14.96      .496 No_date   29:03   45.95  n/a     .000
                     +     1.0 02:S-1-D8          5.27     1.102 No_date   28:00   70.58  n/a     .000
                     +     1.0 02:S-1-A          75.88     3.578 No_date   28:36   45.95  n/a     .000
                  SUM=     1.0 01:SN_FO       54118.36   153.577 No_date   33:32   39.05  n/a     .000
R0100:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_FO       54118.36   153.577 No_date   33:32   39.05  n/a     .000
      fname :SN_FO.0100
      remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0100:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_FO       54118.36   153.577 No_date   33:32   39.05  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_CE        54118.36   153.492 No_date   33:33   39.05  n/a     .000
      [L/S/n=  159./ .082/.035]
      {Vmax= 1.456:Dmax= 4.474}
#****************************************************************************
#     Catchment S-1
#     - To Jock River (north and south of Jock)
#     - Primarily agricultural fields; portion of sand quarry
#****************************************************************************
R0100:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-B          55.36     3.260 No_date   28:23   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp=  .45]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#     -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#     -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#     -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0100:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-D1         21.67      .689 No_date   29:07   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.07]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-D4          3.28      .102 No_date   29:10   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-D5         12.84      .399 No_date   29:10   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-D6          1.75      .054 No_date   29:10   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-D7          2.03      .063 No_date   29:10   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#     Catchment W_CLAR
#     - To West Clarke Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#     - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#     - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#****************************************************************************
R0100:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_MI       1.77      .332 No_date   28:00   66.20 .747     .000
      [XIMP=.46:TIMP=.59]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0100:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_MI       1.77      .332 No_date   28:00   66.20  n/a     .000
                 out <=    1.0 01:W_CLAR_MIn      1.69      .213 No_date   27:52   66.22  n/a     .000
            overflow <=    1.0 03:W_CLAR_MIj       .08      .115 No_date   28:01   66.20  n/a     .000
     {MxStoUsed=.1530E-03  m3, TotOvfVol=.5337E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40    19.638 No_date   28:04   70.23 .793     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:W_CLAR_ALL    119.40    19.638 No_date   28:04   70.23  n/a     .000
                     +     1.0 02:W_CLAR_MIj       .08      .115 No_date   28:01   66.20  n/a     .000
                  SUM=     1.0 01:W_CLAR        119.48    19.657 No_date   28:04   70.22  n/a     .000
```

```
R0100:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:W_CLAR        119.48    19.657 No_date   28:04   70.22  n/a     .000
        fname :W_CLAR.0100
        remark:Total Flows to West Clarke
#*****************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*****************************************************************************
R0100:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->   1.0 02:W_CLAR        119.48    19.657 No_date   28:04   70.22  n/a     .000
                 out <=   1.0 01:MS_P2         119.48    13.064 No_date   28:13   70.22  n/a     .000
            overflow <=   1.0 03:P2-OVF           .00      .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.3189E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#*****************************************************************************
R0100:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:N_CE        54118.36   153.492 No_date   33:33   39.05  n/a     .000
                     +    1.0 02:S-1-D4          3.28      .102 No_date   29:10   45.95  n/a     .000
                     +    1.0 02:S-1-D5         12.84      .399 No_date   29:10   45.95  n/a     .000
                     +    1.0 02:MS_P2         119.48    13.064 No_date   28:13   70.22  n/a     .000
                     +    1.0 02:P2-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                  SUM=    1.0 01:SN_CE       54253.96   154.467 No_date   33:33   39.12  n/a     .000
R0100:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:SN_CE       54253.96   154.467 No_date   33:33   39.12  n/a     .000
        fname :SN_CE.0100
        remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
# JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
R0100:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   1.0 02:SN_CE       54253.96   154.467 No_date   33:33   39.12  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:5737        54253.96   147.337 No_date   35:20   39.12  n/a     .000
        [L/S/n=  270./ .018/.035]
        {Vmax=  .872:Dmax= 5.575}
R0100:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:5737        54253.96   147.337 No_date   35:20   39.12  n/a     .000
                     +    1.0 02:S-1-D1         21.67      .689 No_date   29:07   45.95  n/a     .000
                     +    1.0 02:S-1-D6          1.75      .054 No_date   29:10   45.95  n/a     .000
                     +    1.0 02:S-1-D7          2.03      .063 No_date   29:10   45.95  n/a     .000
                  SUM=    1.0 01:5002        54279.41   147.438 No_date   35:20   39.13  n/a     .000
R0100:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:5002        54279.41   147.438 No_date   35:20   39.13  n/a     .000
        fname :5002.0100
        remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0100:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   1.0 02:5002        54279.41   147.438 No_date   35:20   39.13  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:N_WCa       54279.41   147.366 No_date   35:29   39.13  n/a     .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.325:Dmax= 3.172}
R0100:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   1.0 02:N_WCa       54279.41   147.366 No_date   35:29   39.13  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:N_WCb       54279.41   147.339 No_date   35:35   39.13  n/a     .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.325:Dmax= 3.172}
R0100:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   1.0 02:N_WCb       54279.41   147.339 No_date   35:35   39.13  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:N_WC        54279.41   147.314 No_date   35:41   39.13  n/a     .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.325:Dmax= 3.171}
#*****************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0100:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->   1.0 02:N_WC        54279.41   147.314 No_date   35:41   39.13  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:N_KB        54279.41   146.607 No_date   35:56   39.13  n/a     .000
        [L/S/n= 1020./ .050/.035]
        {Vmax=  .987:Dmax= 3.884}
#*****************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#*****************************************************************************
#*****************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#*****************************************************************************
R0100:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-01A         40.82     5.490 No_date   28:09   36.71 .415     .000
        [XIMP=.10:TIMP=.40]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-01A         40.82     5.490 No_date   28:09   36.71  n/a     .000
      Major System  /     1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-01A-MN      40.82     3.600 No_date   28:44   36.91  n/a     .000
        {MjSysSto=.1774E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-01A-MN      40.82     3.600 No_date   28:44   36.91  n/a     .000
                  SUM=    1.0 01:KB-01A-S       40.82     3.600 No_date   28:44   36.91  n/a     .000
R0100:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-01B         31.10     4.072 No_date   28:06   40.61 .458     .000
        [XIMP=.19:TIMP=.38]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-01B         31.10     4.072 No_date   28:06   40.61  n/a     .000
      Major System  /     1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-01B-MN      31.10     1.585 No_date   27:51   40.77  n/a     .000
        {MjSysSto=.3465E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-01B-MN      31.10     1.585 No_date   27:51   40.77  n/a     .000
                  SUM=    1.0 01:KB-01B-S       31.10     1.585 No_date   27:51   40.77  n/a     .000
R0100:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-01C         13.78     2.471 No_date   28:03   41.89 .473     .000
        [XIMP=.20:TIMP=.41]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-01C         13.78     2.471 No_date   28:03   41.89  n/a     .000
      Major System  /     1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-01C-MN      13.78     1.350 No_date   28:37   42.09  n/a     .000
        {MjSysSto=.8650E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-01C-MN      13.78     1.350 No_date   28:37   42.09  n/a     .000
                  SUM=    1.0 01:KB-01C-S       13.78     1.350 No_date   28:37   42.09  n/a     .000
R0100:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-03          84.78    12.777 No_date   28:07   41.33 .467     .000
        [XIMP=.20:TIMP=.39]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-03          84.78    12.777 No_date   28:07   41.33  n/a     .000
      Major System  /     1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-03-MN       84.78     5.270 No_date   29:11   41.33  n/a     .000
        {MjSysSto=.8591E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-03-MN       84.78     5.270 No_date   29:11   41.33  n/a     .000
                  SUM=    1.0 01:KB-03-S        84.78     5.270 No_date   29:11   41.33  n/a     .000
R0100:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-04           6.95     1.754 No_date   28:00   78.30 .884     .000
        [XIMP=.85:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-04           6.95     1.754 No_date   28:00   78.30  n/a     .000
      Major System  /     1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-04-MN        6.95      .503 No_date   27:43   78.64  n/a     .000
        {MjSysSto=.1121E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-04-MN        6.95      .503 No_date   27:43   78.64  n/a     .000
                  SUM=    1.0 01:KB-04-S         6.95      .503 No_date   27:43   78.64  n/a     .000
R0100:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-05           5.19     1.406 No_date   28:00   82.69 .934     .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-06          12.93     3.585 No_date   28:00   79.73 .900     .000
        [XIMP=.87:TIMP=.87]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-06          12.93     3.585 No_date   28:00   79.73  n/a     .000
      Major System  /     1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-06-MN       12.93     2.262 No_date   27:51   79.89  n/a     .000
        {MjSysSto=.6247E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-06-MN       12.93     2.262 No_date   27:51   79.89  n/a     .000
                  SUM=    1.0 01:KB-06-S        12.93     2.262 No_date   27:51   79.89  n/a     .000
R0100:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-11           4.03     1.012 No_date   28:00   67.54 .763     .000
        [XIMP=.68:TIMP=.68]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-11           4.03     1.012 No_date   28:00   67.54  n/a     .000
      Major System  /     1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-11-MN        4.03      .577 No_date   27:51   67.60  n/a     .000
        {MjSysSto=.2184E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-11-MN        4.03      .577 No_date   27:51   67.60  n/a     .000
                  SUM=    1.0 01:KB-11-S         4.03      .577 No_date   27:51   67.60  n/a     .000
R0100:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:S1              4.99     1.426 No_date   28:00   82.69 .934     .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-15           2.15      .548 No_date   28:00   75.20 .849     .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-01A-S       40.82     3.600 No_date   28:44   36.91  n/a     .000
                     +    1.0 02:KB-01B-S       31.10     1.585 No_date   27:51   40.77  n/a     .000
                     +    1.0 02:KB-01C-S       13.78     1.350 No_date   28:37   42.09  n/a     .000
                     +    1.0 02:KB-03-S        84.78     5.270 No_date   29:11   41.33  n/a     .000
                     +    1.0 02:KB-04-S         6.95      .503 No_date   27:43   78.64  n/a     .000
                     +    1.0 02:KB-05           5.19     1.406 No_date   28:00   82.69  n/a     .000
                     +    1.0 02:KB-06-S        12.93     2.262 No_date   27:51   79.89  n/a     .000
                     +    1.0 02:KB-11-S         4.03      .577 No_date   27:51   67.60  n/a     .000
                     +    1.0 02:KB-15           2.15      .548 No_date   28:00   75.20  n/a     .000
                     +    1.0 02:S1              4.99     1.426 No_date   28:00   82.69  n/a     .000
                  SUM=    1.0 01:KB-P1         206.72    18.527 No_date   28:00   46.99  n/a     .000
R0100:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->   1.0 02:KB-P1         206.72    18.527 No_date   28:00   46.99  n/a     .000
                 out <=   1.0 01:KB-P1R        196.58    12.438 No_date   28:00   46.99  n/a     .000
            overflow <=   1.0 03:KB-P1ovf       10.14     6.062 No_date   28:00   46.99  n/a     .000
       {MxStoUsed=.7330E+00  m3, TotOvfVol=.4763E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0100:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-P1R        196.58    12.438 No_date   28:00   46.99  n/a     .000
                     +    1.0 02:KB-P1ovf       10.14     6.062 No_date   28:00   46.99  n/a     .000
                  SUM=    1.0 01:KB-Pond1      206.72    18.500 No_date   28:00   46.99  n/a     .000
R0100:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:KB-Pond1      206.72    18.500 No_date   28:00   46.99  n/a     .000
        fname :KB-Pond1.0100
        remark:Total Flows at KB first pond
R0100:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-07          10.86     2.908 No_date   28:00   79.06 .893     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-07          10.86     2.908 No_date   28:00   79.06  n/a     .000
      Major System  /     1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-07-MN       10.86     2.094 No_date   27:53   79.26  n/a     .000
        {MjSysSto=.3334E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-07-MN       10.86     2.094 No_date   27:53   79.26  n/a     .000
                  SUM=    1.0 01:KB-07-S        10.86     2.094 No_date   27:53   79.26  n/a     .000
R0100:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-08           6.61     1.609 No_date   28:00   65.36 .738     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-08           6.61     1.609 No_date   28:00   65.36  n/a     .000
      Major System  /     1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-08-MN        6.61     1.058 No_date   27:52   65.50  n/a     .000
        {MjSysSto=.2397E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-08-MN        6.61     1.058 No_date   27:52   65.50  n/a     .000
                  SUM=    1.0 01:KB-08-S         6.61     1.058 No_date   27:52   65.50  n/a     .000
R0100:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-09           2.60      .727 No_date   28:00   78.38 .885     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-10_1         2.37      .663 No_date   28:00   78.39 .885     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-10_2         1.14      .322 No_date   28:00   78.39 .885     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-12           4.86     1.294 No_date   28:00   74.45 .841     .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-12           4.86     1.294 No_date   28:00   74.45  n/a     .000
      Major System  /     1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-12-MN        4.86      .867 No_date   28:11   74.79  n/a     .000
        {MjSysSto=.1873E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-12-MN        4.86      .867 No_date   28:11   74.79  n/a     .000
                  SUM=    1.0 01:KB-12-S         4.86      .867 No_date   28:11   74.79  n/a     .000
R0100:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-13          10.19     2.407 No_date   28:00   65.36 .738     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-13          10.19     2.407 No_date   28:00   65.36  n/a     .000
      Major System  /     1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-13-MN       10.19     1.722 No_date   27:54   65.63  n/a     .000
        {MjSysSto=.2806E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-13-MN       10.19     1.722 No_date   27:54   65.63  n/a     .000
                  SUM=    1.0 01:KB-13-S        10.19     1.722 No_date   27:54   65.63  n/a     .000
R0100:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-14           5.47     1.338 No_date   28:00   65.36 .738     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:KB-14           5.47     1.338 No_date   28:00   65.36  n/a     .000
      Major System  /     1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \     1.0 03:KB-14-MN        5.47      .873 No_date   27:52   65.48  n/a     .000
        {MjSysSto=.2041E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +    1.0 02:KB-14-MN        5.47      .873 No_date   27:52   65.48  n/a     .000
                  SUM=    1.0 01:KB-14-S         5.47      .873 No_date   27:52   65.48  n/a     .000
R0100:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:KB-16_2         3.42      .803 No_date   28:01   70.16 .792     .000
        [XIMP=.71:TIMP=.71]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-Pond1      206.72    18.500 No_date   28:00   46.99  n/a     .000
                     +    1.0 02:KB-07-S        10.86     2.094 No_date   27:53   79.26  n/a     .000
                     +    1.0 02:KB-08-S         6.61     1.058 No_date   27:52   65.50  n/a     .000
                     +    1.0 02:KB-09           2.60      .727 No_date   28:00   78.38  n/a     .000
                     +    1.0 02:KB-10_1         2.37      .663 No_date   28:00   78.38  n/a     .000
                     +    1.0 02:KB-10_2         1.14      .322 No_date   28:00   78.39  n/a     .000
                     +    1.0 02:KB-12-S         4.86      .867 No_date   28:11   74.79  n/a     .000
                     +    1.0 02:KB-13-S        10.19     1.722 No_date   27:54   65.63  n/a     .000
                     +    1.0 02:KB-14-S         5.47      .873 No_date   27:52   65.48  n/a     .000
                     +    1.0 02:KB-16_2         3.42      .803 No_date   28:01   70.16  n/a     .000
                  SUM=    1.0 01:KB-P2         254.24    27.626 No_date   28:00   51.59  n/a     .000
R0100:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->   1.0 02:KB-P2         254.24    27.626 No_date   28:00   51.59  n/a     .000
                 out <=   1.0 01:KB-P2R        249.74    17.634 No_date   28:06   51.59  n/a     .000
            overflow <=   1.0 03:KB-P2ovf        4.50     6.910 No_date   28:06   51.59  n/a     .000
       {MxStoUsed=.1110E+01  m3, TotOvfVol=.2320E+00  m3, N-Ovf=    2, TotDurOvf=    0.hrs}
R0100:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-P2R        249.74    17.634 No_date   28:06   51.59  n/a     .000
                     +    1.0 02:KB-P2ovf        4.50     6.910 No_date   28:06   51.59  n/a     .000
                  SUM=    1.0 01:KB-Pond2      254.24    24.544 No_date   28:06   51.59  n/a     .000
R0100:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:KB-Pond2      254.24    24.544 No_date   28:06   51.59  n/a     .000
        fname :KB-Pond2.0100
```

```
      remark:Total Flows at KB second pond
R0100:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-16_1         2.80      .686 No_date   28:00   72.68 .821      .000
      [XIMP=.75:TIMP=.75]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:KB-Pond2     254.24   24.544 No_date   28:06   51.59  n/a      .000
                         +     1.0 02:KB-16_1        2.80     .686 No_date   28:00   72.68  n/a      .000
                      SUM=     1.0 01:KB-P3        257.04   24.930 No_date   28:06   51.82  n/a      .000
R0100:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:KB-P3        257.04   24.930 No_date   28:06   51.82  n/a      .000
                   out <=      1.0 01:KB-P3R         8.56     .051 No_date   17:08   51.81  n/a      .000
              overflow <=      1.0 03:KB-P3ovf     248.48   24.659 No_date   28:07   51.82  n/a      .000
     {MxStoUsed=.1991E-02  m3, TotOvfVol=.1288E+02  m3, N-Ovf=    1, TotDurOvf=   23.hrs}
R0100:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:KB-P3R         8.56     .051 No_date   17:08   51.81  n/a      .000
                         +     1.0 02:KB-P3ovf     248.48   24.659 No_date   28:07   51.82  n/a      .000
                      SUM=     1.0 01:KB-Pond3     257.04   24.710 No_date   28:07   51.82  n/a      .000
R0100:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:KB-Pond3     257.04   24.710 No_date   28:07   51.82  n/a      .000
      fname :KB-Pond3.0100
      remark:Total Flows at KB third pond
#*****************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#*****************************************************************************
R0100:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:FC-01            8.03     1.646 No_date   28:01   54.40 .614      .000
      [XIMP=.47:TIMP=.47]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:FC-01          8.03    1.646 No_date   28:01   54.40  n/a      .000
     Major System  /           1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \           1.0 03:FC-01-MN       8.03     .756 No_date   27:49   54.46  n/a      .000
      {MjSysSto=.6274E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                         +     1.0 02:FC-01-MN       8.03     .756 No_date   27:49   54.46  n/a      .000
                      SUM=     1.0 01:FC-01-S        8.03     .756 No_date   27:49   54.46  n/a      .000
R0100:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:FC-02           16.05     4.197 No_date   28:00   82.69 .934      .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:FC-02         16.05    4.197 No_date   28:00   82.69  n/a      .000
     Major System  /           1.0 02:FC-02-MJ        .45    1.768 No_date   28:05   82.69  n/a      .000
     Minor System  \           1.0 03:FC-02-MN      15.60    1.159 No_date   27:43   82.88  n/a      .000
      {MjSysSto=.2385E+04, TotOvfVol=.3716E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:FC-02-MJ        .45    1.768 No_date   28:05   82.69  n/a      .000
                         +     1.0 02:FC-02-MN      15.60    1.159 No_date   27:43   82.88  n/a      .000
                      SUM=     1.0 01:FC-02-S       16.05    2.927 No_date   28:05   82.87  n/a      .000
R0100:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:FC-03            7.37     1.717 No_date   28:00   64.86 .732      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:FC-03          7.37    1.717 No_date   28:00   64.86  n/a      .000
     Major System  /           1.0 02:FC-03-MJ        .34     .661 No_date   28:06   64.86  n/a      .000
     Minor System  \           1.0 03:FC-03-MN       7.03     .358 No_date   27:41   64.90  n/a      .000
      {MjSysSto=.1131E+04, TotOvfVol=.2188E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:FC-03-MJ        .34     .661 No_date   28:06   64.86  n/a      .000
                         +     1.0 02:FC-03-MN       7.03     .358 No_date   27:41   64.90  n/a      .000
                      SUM=     1.0 01:FC-03-S        7.37    1.019 No_date   28:06   64.90  n/a      .000
R0100:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:FC-04           12.87     2.884 No_date   28:01   64.86 .732      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:FC-04         12.87    2.884 No_date   28:01   64.86  n/a      .000
     Major System  /           1.0 02:FC-04-MJ        .44     .978 No_date   28:07   64.86  n/a      .000
     Minor System  \           1.0 03:FC-04-MN      12.43     .741 No_date   27:43   65.10  n/a      .000
      {MjSysSto=.1794E+04, TotOvfVol=.2828E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:FC-04-MJ        .44     .978 No_date   28:07   64.86  n/a      .000
                         +     1.0 02:FC-04-MN      12.43     .741 No_date   27:43   65.10  n/a      .000
                      SUM=     1.0 01:FC-04-S       12.87    1.719 No_date   28:07   65.09  n/a      .000
#*****************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#*****************************************************************************
R0100:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:JR-01            8.24     1.891 No_date   28:00   64.86 .732      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:JR-01          8.24    1.891 No_date   28:00   64.86  n/a      .000
     Major System  /           1.0 02:JR-01-MJ        .20     .471 No_date   28:06   64.86  n/a      .000
     Minor System  \           1.0 03:JR-01-MN       8.04     .563 No_date   27:44   64.95  n/a      .000
      {MjSysSto=.1040E+04, TotOvfVol=.1267E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:JR-01-MJ        .20     .471 No_date   28:06   64.86  n/a      .000
                         +     1.0 02:JR-01-MN       8.04     .563 No_date   27:44   64.95  n/a      .000
                      SUM=     1.0 01:JR-01-S        8.24    1.034 No_date   28:06   64.95  n/a      .000
R0100:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:JR-02            1.59      .393 No_date   28:00   64.86 .732      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:JR-02          1.59     .393 No_date   28:00   64.85  n/a      .000
     Major System  /           1.0 02:JR-02-MJ        .02     .087 No_date   28:03   64.85  n/a      .000
     Minor System  \           1.0 03:JR-02-MN       1.57     .153 No_date   27:44   65.24  n/a      .000
      {MjSysSto=.1530E+03, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:JR-02-MJ        .02     .087 No_date   28:03   64.85  n/a      .000
                         +     1.0 02:JR-02-MN       1.57     .153 No_date   27:44   65.24  n/a      .000
                      SUM=     1.0 01:JR-02-S        1.59     .240 No_date   28:03   65.23  n/a      .000
#*****************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#*****************************************************************************
R0100:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:FRASER-DRN      13.65      .837 No_date   28:21   45.95 .519      .000
      [CN= 77.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:FRASER-D        21.61      .959 No_date   28:40   45.95 .519      .000
      [CN= 77.0: N= 3.00: Tp=  .67]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:KB-Pond3     257.04   24.710 No_date   28:07   51.82  n/a      .000
                         +     1.0 02:S-1-B         55.36    3.260 No_date   28:23   45.95  n/a      .000
                         +     1.0 02:FRASER-DRN    13.65     .837 No_date   28:21   45.95  n/a      .000
                         +     1.0 02:FRASER-D      21.61     .959 No_date   28:40   45.95  n/a      .000
                         +     1.0 02:N_KB        54279.41  146.607 No_date   35:56   39.13  n/a      .000
                         +     1.0 02:FC-01-S        8.03     .756 No_date   27:49   54.46  n/a      .000
                         +     1.0 02:FC-02-S       16.05    2.927 No_date   28:05   82.87  n/a      .000
                         +     1.0 02:FC-03-S        7.37    1.019 No_date   28:06   64.90  n/a      .000
                      SUM=     1.0 01:4241        54658.52  147.494 No_date   35:56   39.22  n/a      .000
R0100:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:4241        54658.52  147.494 No_date   35:56   39.22  n/a      .000
      fname :4241.0100
      remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0100:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->         1.0 02:4241        54658.52  147.494 No_date   35:56   39.22  n/a      .000
 *   [RDT= 1.00] out<-         1.0 01:4241-out    54658.52  147.461 No_date   35:49   39.22  n/a      .000
      [L/S/n=  294./ .109/.035]
      {Vmax= 1.403:Dmax= 2.621}
R0100:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:4241-out    54658.52  147.461 No_date   35:49   39.22  n/a      .000
                         +     1.0 02:FC-04-S       12.87    1.719 No_date   28:07   65.09  n/a      .000
                         +     1.0 02:JR-01-S        8.24    1.034 No_date   28:06   64.95  n/a      .000
                         +     1.0 02:JR-02-S        1.59     .240 No_date   28:03   65.23  n/a      .000
                      SUM=     1.0 01:SN_KB       54681.21  147.525 No_date   35:49   39.23  n/a      .000
R0100:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:SN_KB       54681.21  147.525 No_date   35:49   39.23  n/a      .000
      fname :SN_KB.0100
      remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0100:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->         1.0 02:SN_KB       54681.21  147.525 No_date   35:49   39.23  n/a      .000
     [RDT= 1.00] out<-         1.0 01:N_TO        54681.21  147.299 No_date   35:49   39.23  n/a      .000
      [L/S/n=  608./ .247/.035]
      {Vmax= 1.918:Dmax= 1.962}
#*****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#*****************************************************************************
R0100:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:Greenbank       36.60     7.069 No_date   28:01   71.80 .811      .000
      [XIMP=.64:TIMP=.68]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:Greenbank     36.60    7.069 No_date   28:01   71.80  n/a      .000
                   out <=      1.0 01:GreenB_MN     36.60    5.350 No_date   28:07   71.80  n/a      .000
              overflow <=      1.0 03:GreenB_MJ       .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.9351E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:N_TO        54681.21  147.299 No_date   35:49   39.23  n/a      .000
                         +     1.0 02:GreenB_MJ       .00     .000 No_date    0:00     .00  n/a      .000
                         +     1.0 02:GreenB_MN     36.60    5.350 No_date   28:07   71.80  n/a      .000
                      SUM=     1.0 01:GreenB      54717.82  147.488 No_date   35:49   39.25  n/a      .000
R0100:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:GreenB      54717.82  147.488 No_date   35:49   39.25  n/a      .000
      fname :GreenB.0100
      remark:Total Flows at Greenbank Drain
#*****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#*****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0100:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_MN2         2.10      .428 No_date   28:00   66.78 .754      .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_MN3          .12      .025 No_date   28:00   66.78 .754      .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_MJ         30.23     5.210 No_date   28:02   68.65 .775      .000
      [XIMP=.52:TIMP=.64]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_ALL       112.91    17.286 No_date   28:04   66.60 .752      .000
      [XIMP=.52:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_P           3.06      .669 No_date   28:00   70.28 .794      .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0100:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:TODD_MJ       30.23    5.210 No_date   28:02   68.65  n/a      .000
                   out <=      1.0 01:TODD_MJn      28.64    3.314 No_date   27:54   68.65  n/a      .000
              overflow <=      1.0 03:TODD_MJj       1.59    1.889 No_date   28:02   68.65  n/a      .000
     {MxStoUsed=.1512E-03  m3, TotOvfVol=.1094E+00  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0100:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:TODD_MN2       2.10     .428 No_date   28:00   66.78  n/a      .000
                   out <=      1.0 01:TODD_MN2n      1.99     .268 No_date   27:52   66.78  n/a      .000
              overflow <=      1.0 03:TODD_MN2j       .11     .155 No_date   28:00   66.78  n/a      .000
     {MxStoUsed=.1204E-03  m3, TotOvfVol=.7282E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:TODD_MN3        .12     .025 No_date   28:00   66.78  n/a      .000
                   out <=      1.0 01:TODD_MN3n       .11     .016 No_date   27:52   66.78  n/a      .000
              overflow <=      1.0 03:TODD_MN3j       .01     .009 No_date   28:00   66.78  n/a      .000
     {MxStoUsed=.9808E-04  m3, TotOvfVol=.3933E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A2              25.50     3.884 No_date   28:03   62.46 .705      .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:A2            25.50    3.884 No_date   28:03   62.46  n/a      .000
     Major System  /           1.0 02:A2-MJ          1.43    2.026 No_date   28:04   62.46  n/a      .000
     Minor System  \           1.0 03:A2-MN         24.07    1.818 No_date   27:50   62.71  n/a      .000
      {MjSysSto=.9240E+03, TotOvfVol=.8908E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:TODD_MN2n      1.99     .268 No_date   27:52   66.78  n/a      .000
                         +     1.0 02:TODD_MN3n       .11     .016 No_date   27:52   66.78  n/a      .000
                         +     1.0 02:TODD_MJj       1.59    1.889 No_date   28:02   68.65  n/a      .000
                         +     1.0 02:TODD_P         3.06     .669 No_date   28:00   70.28  n/a      .000
                         +     1.0 02:TODD_ALL     112.91   17.286 No_date   28:04   66.60  n/a      .000
                         +     1.0 02:W_CLAR_MJn     1.69     .213 No_date   27:52   66.22  n/a      .000
                      SUM=     1.0 01:TODD         121.35   20.000 No_date   28:03   66.72  n/a      .000
R0100:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:TODD         121.35   20.000 No_date   28:03   66.72  n/a      .000
      fname :TODD.0100
      remark:Total Flows at Todd Drain
#*****************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#*****************************************************************************
R0100:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:TODD         121.35   20.000 No_date   28:03   66.72  n/a      .000
                   out <=      1.0 01:MS_P3        121.35   15.844 No_date   28:09   66.71  n/a      .000
              overflow <=      1.0 03:P3-OVF          .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.2834E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:GreenB      54717.82  147.488 No_date   35:49   39.25  n/a      .000
                         +     1.0 02:MS_P3        121.35   15.844 No_date   28:09   66.71  n/a      .000
                         +     1.0 02:P3-OVF          .00     .000 No_date    0:00     .00  n/a      .000
                         +     1.0 02:TODD_MN2j       .11     .155 No_date   28:00   66.78  n/a      .000
                         +     1.0 02:A2-MJ          1.43    2.026 No_date   28:04   62.46  n/a      .000
                      SUM=     1.0 01:SN_TO       54840.70  147.973 No_date   35:49   39.31  n/a      .000
R0100:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:SN_TO       54840.70  147.973 No_date   35:49   39.31  n/a      .000
      fname :SN_TO.0100
      remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0100:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->         1.0 02:SN_TO       54840.70  147.973 No_date   35:49   39.31  n/a      .000
 *   [RDT= 1.00] out<-         1.0 01:N_TO        54840.70  147.653 No_date   36:19   39.31  n/a      .000
      [L/S/n=  280./ .050/.045]
      {Vmax=  .880:Dmax= 3.715}
R0100:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:N_TO        54840.70  147.653 No_date   36:19   39.31  n/a      .000
      fname :N_TO.0100
      remark:Total inflows at Station 2462
#*****************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#*****************************************************************************
R0100:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:corr1           15.87     3.185 No_date   28:01   70.28 .794      .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:corr1         15.87    3.185 No_date   28:01   70.28  n/a      .000
     Major System  /           1.0 02:corr1-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \           1.0 03:corr1-MN      15.87    1.818 No_date   28:25   70.70  n/a      .000
      {MjSysSto=.7879E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:corr2           12.47      .388 No_date   29:10   45.95 .519      .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:Al-Corrig       15.75     2.624 No_date   28:01   62.46 .705      .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:Al-Corrig     15.75    2.624 No_date   28:01   62.46  n/a      .000
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     Major System   /     1.0 02:A1-MJ              .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A1-MN            15.75     1.818 No_date   27:55   62.48  n/a     .000
      {MjSysSto=.3859E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:B1                2.77      .143 No_date   28:09   29.03 .328     .000
      [CN= 56.0: N= 3.00: Tp=  .23]
      [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
      [InterEventTime= 12.00]
R0100:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A4                1.27      .266 No_date   28:00   70.58 .797     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A4                1.27      .266 No_date   28:00   70.58  n/a     .000
     Major System   /     1.0 02:A4-MJ              .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A4-MN             1.27      .266 No_date   28:00   70.58  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A1-MJ              .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A1-MN            15.75     1.818 No_date   27:55   62.48  n/a     .000
                    +     1.0 02:corr1-MJ           .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:corr1-MN         15.87     1.818 No_date   28:25   70.70  n/a     .000
                    +     1.0 02:corr2            12.47      .388 No_date   29:10   45.95  n/a     .000
                    +     1.0 02:B1                2.77      .143 No_date   28:09   29.03  n/a     .000
                    +     1.0 02:A4-MN             1.27      .266 No_date   28:00   70.58  n/a     .000
                 SUM=     1.0 01:MH101            48.13     4.085 No_date   28:02   59.20  n/a     .000
R0100:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH101            48.13     4.085 No_date   28:02   59.20  n/a     .000
      fname :MH101.0100
      remark:Total Flows at MH101
R0100:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:MH101            48.13     4.085 No_date   28:02   59.20  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:101-102          48.13     4.065 No_date   28:03   59.20  n/a     .000
      [L/S/n=  368./ .540/.013]
      {Vmax= 3.154:Dmax= 1.125}
      [Din= 1.05:Dused= 1.37}
R0100:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A2-MN            24.07     1.818 No_date   27:50   62.71  n/a     .000
                    +     1.0 02:101-102          48.13     4.065 No_date   28:03   59.20  n/a     .000
                 SUM=     1.0 01:MH102            72.20     5.883 No_date   28:03   60.37  n/a     .000
R0100:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH102            72.20     5.883 No_date   28:03   60.37  n/a     .000
      fname :MH102.0100
      remark:Total Flows at MH102
R0100:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A5                1.60      .346 No_date   28:01   73.40 .829     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A4-MJ              .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A5                1.60      .346 No_date   28:01   73.40  n/a     .000
                 SUM=     1.0 01:A5T               1.60      .346 No_date   28:01   73.40  n/a     .000
R0100:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A5T               1.60      .346 No_date   28:01   73.40  n/a     .000
     Major System   /     1.0 02:A5-MJ              .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A5-MN             1.60      .346 No_date   28:01   73.40  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:MH102            72.20     5.883 No_date   28:03   60.37  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:102-103          72.20     5.831 No_date   28:12   60.37  n/a     .000
      [L/S/n=  504./ .280/.013]
      {Vmax= 2.701:Dmax= 1.459}
      [Din= 1.50:Dused= 1.78}
R0100:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:102-103          72.20     5.831 No_date   28:12   60.37  n/a     .000
                    +     1.0 02:A5-MN             1.60      .346 No_date   28:01   73.40  n/a     .000
                 SUM=     1.0 01:MH103            73.80     6.079 No_date   28:04   60.65  n/a     .000
R0100:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH103            73.80     6.079 No_date   28:04   60.65  n/a     .000
      fname :MH103.0100
      remark:Total Flows at MH103
R0100:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:MH103            73.80     6.079 No_date   28:04   60.65  n/a     .000
     [RDT= 1.00] out<-    1.0 01:103-104          73.80     6.014 No_date   28:05   60.65  n/a     .000
      [L/S/n=  438./ .460/.013]
      {Vmax= 3.295:Dmax= 1.330}
      [Din= 1.65:Dused= 1.65}
R0100:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A6                1.56      .339 No_date   28:00   73.40 .829     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A5-MJ              .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A6                1.56      .339 No_date   28:00   73.40  n/a     .000
                 SUM=     1.0 01:A6T               1.56      .339 No_date   28:00   73.40  n/a     .000
R0100:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A6T               1.56      .339 No_date   28:00   73.40  n/a     .000
     Major System   /     1.0 02:A6-MJ              .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A6-MN             1.56      .339 No_date   28:00   73.40  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A6-MN             1.56      .339 No_date   28:00   73.40  n/a     .000
                    +     1.0 02:103-104          73.80     6.014 No_date   28:05   60.65  n/a     .000
                    +     1.0 02:TODD_MJn         28.64     3.314 No_date   27:54   68.65  n/a     .000
                 SUM=     1.0 01:MH104           104.00     9.601 No_date   28:03   63.04  n/a     .000
R0100:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH104           104.00     9.601 No_date   28:03   63.04  n/a     .000
      fname :MH104.0100
      remark:Total Flows at MH104
R0100:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B2               12.31     2.012 No_date   28:02   62.88 .710     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B2               12.31     2.012 No_date   28:02   62.88  n/a     .000
     Major System   /     1.0 02:B2-MJ              .36      .820 No_date   28:05   62.88  n/a     .000
     Minor System   \     1.0 03:B2-MN            11.95     1.029 No_date   27:51   62.91  n/a     .000
      {MjSysSto=.5080E+03, TotOvfVol=.2245E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:B2-MN            11.95     1.029 No_date   27:51   62.91  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:315-333          11.95     1.029 No_date   28:35   62.91  n/a     .000
      [L/S/n=  254./ .100/.013]
      {Vmax= 1.220:Dmax=  .838}
      [Din= 1.20:Dused= 1.20}
R0100:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B3                5.59      .930 No_date   28:01   62.88 .710     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B3                5.59      .930 No_date   28:01   62.88  n/a     .000
     Major System   /     1.0 02:B3-MJ              .19      .402 No_date   28:04   62.88  n/a     .000
     Minor System   \     1.0 03:B3-MN             5.40      .459 No_date   27:50   63.05  n/a     .000
      {MjSysSto=.2270E+03, TotOvfVol=.1217E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B3-MN             5.40      .459 No_date   27:50   63.05  n/a     .000
                    +     1.0 02:315-333          11.95     1.029 No_date   28:35   62.91  n/a     .000
                 SUM=     1.0 01:MH333            17.35     1.488 No_date   28:35   62.96  n/a     .000
R0100:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH333            17.35     1.488 No_date   28:35   62.96  n/a     .000
      fname :MH333.0100
      remark:Total Flows at MH333
R0100:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:MH333            17.35     1.488 No_date   28:35   62.96  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:333-335          17.35     1.489 No_date   28:27   62.96  n/a     .000
      [L/S/n=  251./ .100/.013]
      {Vmax= 1.302:Dmax= 1.057}
      [Din= 1.20:Dused= 1.29}
R0100:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:333-335          17.35     1.489 No_date   28:27   62.96  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:335-338          17.35     1.481 No_date   28:35   62.96  n/a     .000
      [L/S/n=  185./ .100/.013]
      {Vmax= 1.302:Dmax= 1.057}
      [Din= 1.20:Dused= 1.29}
R0100:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:335-338          17.35     1.481 No_date   28:35   62.96  n/a     .000
     [RDT= 1.00] out<-    1.0 01:338-340          17.35     1.480 No_date   28:35   62.96  n/a     .000
      [L/S/n=  233./ .100/.013]
      {Vmax= 1.330:Dmax=  .981}
      [Din= 1.35:Dused= 1.35}
R0100:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B4                7.60     1.252 No_date   28:02   62.88 .710     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B4                7.60     1.252 No_date   28:02   62.88  n/a     .000
     Major System   /     1.0 02:B4-MJ              .17      .411 No_date   28:06   62.88  n/a     .000
     Minor System   \     1.0 03:B4-MN             7.43      .655 No_date   27:51   62.90  n/a     .000
      {MjSysSto=.3230E+03, TotOvfVol=.1079E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:338-340          17.35     1.480 No_date   28:35   62.96  n/a     .000
                    +     1.0 02:B4-MN             7.43      .655 No_date   27:51   62.90  n/a     .000
                 SUM=     1.0 01:MH340            24.78     2.126 No_date   28:34   62.94  n/a     .000
R0100:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH340            24.78     2.126 No_date   28:34   62.94  n/a     .000
      fname :MH340.0100
      remark:Total Flows at MH340
R0100:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:MH340            24.78     2.126 No_date   28:34   62.94  n/a     .000
     [RDT= 1.00] out<-    1.0 01:340-104          24.78     2.116 No_date   28:21   62.94  n/a     .000
      [L/S/n=  240./ .150/.013]
      {Vmax= 1.726:Dmax=  .923}
      [Din= 1.65:Dused= 1.65}
R0100:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:340-104          24.78     2.116 No_date   28:21   62.94  n/a     .000
                    +     1.0 02:MH104           104.00     9.601 No_date   28:03   63.04  n/a     .000
                 SUM=     1.0 01:MH104T          128.78    11.560 No_date   28:04   63.02  n/a     .000
R0100:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:MH104T          128.78    11.560 No_date   28:04   63.02  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:104-105         128.78    11.359 No_date   28:10   63.02  n/a     .000
      [L/S/n=  380./ .100/.013]
      {Vmax= 2.115:Dmax= 2.014}
      {HGTH= 2.37:WDTH= 2.71}
R0100:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B5                2.20      .437 No_date   28:00   66.83 .755     .000
      [XIMP=.57:TIMP=.57]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B5                2.20      .437 No_date   28:00   66.83  n/a     .000
     Major System   /     1.0 02:B5-MJ              .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:B5-MN             2.20      .260 No_date   27:51   66.87  n/a     .000
      {MjSysSto=.9053E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A8                 .96      .219 No_date   28:00   73.40 .829     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A6-MJ              .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A8                 .96      .219 No_date   28:00   73.40  n/a     .000
                 SUM=     1.0 01:A8T                .96      .219 No_date   28:00   73.40  n/a     .000
R0100:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A8T                .96      .219 No_date   28:00   73.40  n/a     .000
     Major System   /     1.0 02:A8-MJ              .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A8-MN              .96      .219 No_date   28:00   73.40  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:104-105         128.78    11.359 No_date   28:10   63.02  n/a     .000
                    +     1.0 02:B5-MN             2.20      .260 No_date   27:51   66.87  n/a     .000
                    +     1.0 02:A8-MN              .96      .219 No_date   28:00   73.40  n/a     .000
                    +     1.0 02:TODD_MN3j          .01      .009 No_date   28:00   66.78  n/a     .000
                 SUM=     1.0 01:MH105           131.94    11.688 No_date   28:10   63.16  n/a     .000
R0100:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH105           131.94    11.688 No_date   28:10   63.16  n/a     .000
      fname :MH105.0100
      remark:Total Flows at MH105
R0100:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  DIVERT HYD     ->     1.0 01:A8-MJ              .00      .000 No_date    0:00     .00  n/a     .000
          diverted <=     1.0 02:A8-MJ-JR           .00      .000 No_date    0:00     .00  n/a     .000
          diverted <=     1.0 03:A8-MJ-B6           .00      .000 No_date    0:00     .00  n/a     .000
R0100:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    DIVERT HYD     ->     1.0 01:MH105           131.94    11.688 No_date   28:10   63.16  n/a     .000
          diverted <=     1.0 02:MH105-JR         36.57     8.679 No_date   28:10   63.16  n/a     .000
          diverted <=     1.0 03:MH105-B6         95.37     3.009 No_date   28:10   63.16  n/a     .000
R0100:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B7                7.19     1.283 No_date   28:01   62.88 .710     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B4-MJ              .17      .411 No_date   28:06   62.88  n/a     .000
                    +     1.0 02:B7                7.19     1.283 No_date   28:01   62.88  n/a     .000
                 SUM=     1.0 01:B7-B4MJ           7.36     1.300 No_date   28:06   62.88  n/a     .000
R0100:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B7-B4MJ           7.36     1.300 No_date   28:06   62.88  n/a     .000
     Major System   /     1.0 02:B7R-MJ             .36      .671 No_date   28:06   62.88  n/a     .000
     Minor System   \     1.0 03:B7R-MN            7.00      .629 No_date   28:31   62.97  n/a     .000
      {MjSysSto=.3110E+03, TotOvfVol=.2280E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:B7R-MN            7.00      .629 No_date   28:31   62.97  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:360-106A          7.00      .629 No_date   28:31   62.97  n/a     .000
      [L/S/n=  167./ .100/.013]
      {Vmax= 1.089:Dmax=  .665}
      [Din= 1.05:Dused= 1.05}
R0100:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B6                3.29      .602 No_date   28:00   62.88 .710     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B6                3.29      .602 No_date   28:00   62.88  n/a     .000
     Major System   /     1.0 02:B6-MJ              .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:B6-MN             3.29      .064 No_date   27:33   62.92  n/a     .000
      {MjSysSto=.7353E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:EX-LAND          32.50     5.231 No_date   28:02   62.70 .708     .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0100:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:EX-LAND          32.50     5.231 No_date   28:02   62.70  n/a     .000
     Major System   /     1.0 02:EX-LAND-MJ        1.77     2.874 No_date   28:03   62.70  n/a     .000
     Minor System   \     1.0 03:EX-LAND-MN       30.73     2.275 No_date   27:48   62.82  n/a     .000
      {MjSysSto=.1365E+04, TotOvfVol=.1111E+04, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B7R-MJ             .36      .671 No_date   28:06   62.88  n/a     .000
                    +     1.0 02:EX-LAND-MJ        1.77     2.874 No_date   28:03   62.70  n/a     .000
                    +     1.0 02:B5-MJ              .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:B6-MJ              .00      .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:B6-MN             3.29      .064 No_date   27:33   62.92  n/a     .000
                    +     1.0 02:A8-MJ-B6           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:B6-B7ExMJ         5.42     3.483 No_date   28:03   62.85  n/a     .000
R0100:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B6-B7ExMJ         5.42     3.483 No_date   28:03   62.85  n/a     .000
     Major System   /     1.0 02:B6R-MJ             .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:B6R-MN            5.42      .064 No_date   27:33   62.85  n/a     .000
      {MjSysSto=.1339E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:MH105-B6         95.37     3.009 No_date   28:10   63.16  n/a     .000
     [RDT= 1.00] out<-    1.0 01:105-106A         95.37     3.009 No_date   28:04   63.16  n/a     .000
      [L/S/n=  208./ .100/.013]
      {Vmax= 1.597:Dmax= 1.249}
      [Din= 1.80:Dused= 1.80}
R0100:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:360-106A          7.00      .629 No_date   28:31   62.97  n/a     .000
                    +     1.0 02:105-106A         95.37     3.009 No_date   28:04   63.16  n/a     .000
                    +     1.0 02:B6R-MN            5.42      .064 No_date   27:33   62.85  n/a     .000
                    +     1.0 02:B6R-MJ             .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:MH106A          107.80     3.702 No_date   28:10   63.13  n/a     .000
R0100:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH106A          107.80     3.702 No_date   28:10   63.13  n/a     .000
      fname :MH106A.0100
      remark:Total Flows at MH106A
R0100:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:MH106A          107.80     3.702 No_date   28:10   63.13  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:106A-106        107.80     3.757 No_date   28:13   63.13  n/a     .000
      [L/S/n=  190./ .100/.013]
      {Vmax= 1.635:Dmax= 1.487}
      [Din= 1.80:Dused= 1.81}
R0100:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A9                2.44      .539 No_date   28:00   73.40 .829     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A9                2.44      .539 No_date   28:00   73.40  n/a     .000
     Major System   /     1.0 02:A9-MJ              .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A9-MN             2.44      .539 No_date   28:00   73.40  n/a     .000
R0100:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:106A-106        107.80     3.757 No_date   28:13   63.13  n/a     .000
                    +     1.0 02:A9-MN             2.44      .539 No_date   28:00   73.40  n/a     .000
                 SUM=     1.0 01:MH106           110.24     4.227 No_date   28:00   63.36  n/a     .000
R0100:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH106           110.24     4.227 No_date   28:00   63.36  n/a     .000
      fname :MH106.0100
      remark:Total Flows at MH106
R0100:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->     1.0 02:MH106           110.24     4.227 No_date   28:00   63.36  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:106-107         110.24     4.179 No_date   28:02   63.36  n/a     .000
      [L/S/n=  123./ .100/.013]
      {Vmax= 1.690:Dmax= 1.563}
      [Din= 1.80:Dused= 1.90}
R0100:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A10               4.14      .693 No_date   28:01   59.73 .674     .000
      [XIMP=.35:TIMP=.47]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A10               4.14      .693 No_date   28:01   59.73  n/a     .000
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     Major System   /     1.0 02:A10-MJ            .09     .218 No_date   28:05   59.73  n/a     .000
     Minor System   \     1.0 03:A10-MN           4.05     .310 No_date   27:48   60.02  n/a     .000
      {MjSysSto=.2280E+03, TotOvfVol=.5334E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00365-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A11             10.61    1.941 No_date   28:01   67.38 .761     .000
      [XIMP=.53:TIMP=.62]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00366-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A11             10.61    1.941 No_date   28:01   67.38  n/a     .000
     Major System   /     1.0 02:A11-MJ            .16     .564 No_date   28:06   67.38  n/a     .000
     Minor System   \     1.0 03:A11-MN          10.45     .993 No_date   28:34   67.69  n/a     .000
      {MjSysSto=.5560E+03, TotOvfVol=.1090E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00367-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:106-107        110.24    4.179 No_date   28:02   63.36  n/a     .000
                    +     1.0 02:A10-MN           4.05     .310 No_date   27:48   60.02  n/a     .000
                    +     1.0 02:A11-MN          10.45     .993 No_date   28:34   67.69  n/a     .000
                 SUM=     1.0 01:MH107          124.74    5.482 No_date   28:02   63.62  n/a     .000
R0100:C00368-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH107          124.74    5.482 No_date   28:02   63.62  n/a     .000
      fname :MH107.0100
      remark:Total Flows at MH107
R0100:C00369-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH107          124.74    5.482 No_date   28:02   63.62  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:107-119        124.74    5.468 No_date   28:04   63.62  n/a     .000
      [L/S/n=  114./ .120/.013]
      {Vmax= 1.932:Dmax= 1.665}
      [Din= 1.80:Dused= 2.03}
R0100:C00370-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:107-119        124.74    5.468 No_date   28:04   63.62  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:119-108        124.74    5.480 No_date   28:05   63.62  n/a     .000
      [L/S/n=   66./ .120/.013]
      {Vmax= 1.930:Dmax= 1.664}
      [Din= 1.80:Dused= 2.03}
R0100:C00371-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A12             12.29    2.213 No_date   28:01   62.88 .710     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00372-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A12             12.29    2.213 No_date   28:01   62.88  n/a     .000
     Major System   /     1.0 02:A12-MJ            .23     .599 No_date   28:05   62.88  n/a     .000
     Minor System   \     1.0 03:A12-MN          12.06    1.029 No_date   27:48   63.11  n/a     .000
      {MjSysSto=.6720E+03, TotOvfVol=.1477E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00373-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A13              2.59     .540 No_date   28:01   73.40 .829     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00374-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A13              2.59     .540 No_date   28:01   73.40  n/a     .000
     Major System   /     1.0 02:A13-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A13-MN           2.59     .540 No_date   28:01   73.40  n/a     .000
R0100:C00375-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Pond-Block       2.94     .490 No_date   28:00   59.56 .673     .000
      [XIMP=.41:TIMP=.41]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00376-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:119-108        124.74    5.480 No_date   28:05   63.62  n/a     .000
                    +     1.0 02:A13-MN           2.59     .540 No_date   28:01   73.40  n/a     .000
                    +     1.0 02:A12-MN          12.06    1.029 No_date   27:48   63.11  n/a     .000
                 SUM=     1.0 01:MH108          139.38    6.996 No_date   28:03   63.75  n/a     .000
R0100:C00377-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH108          139.38    6.996 No_date   28:03   63.75  n/a     .000
      fname :MH108.0100
      remark:Total Flows at MH108
R0100:C00378-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH108          139.38    6.996 No_date   28:03   63.75  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:108-116        139.38    6.987 No_date   28:04   63.75  n/a     .000
      [L/S/n=   77./ .130/.013]
      {Vmax= 2.116:Dmax= 1.798}
      [Din= 1.80:Dused= 2.19}
R0100:C00379-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:108-116        139.38    6.987 No_date   28:04   63.75  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:116-corrig     139.38    6.949 No_date   28:06   63.75  n/a     .000
      [L/S/n=   80./ .130/.013]
      {Vmax= 2.115:Dmax= 1.797}
      [Din= 1.80:Dused= 2.19}
R0100:C00380-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:116-corrig     139.38    6.949 No_date   28:06   63.75  n/a     .000
                    +     1.0 02:Pond-Block       2.94     .490 No_date   28:00   59.56  n/a     .000
                 SUM=     1.0 01:Corrigan       142.32    7.300 No_date   28:04   63.67  n/a     .000
R0100:C00381-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:Corrigan       142.32    7.300 No_date   28:04   63.67  n/a     .000
      fname :Corrigan.0100
      remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0100:C00382-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Corrigan       142.32    7.300 No_date   28:04   63.67  n/a     .000
                out <=    1.0 01:Co-P           142.32    6.658 No_date   28:15   63.67  n/a     .000
           overflow <=    1.0 03:Co-P-OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1044E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00383-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:Co-P-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:Co-P           142.32    6.658 No_date   28:15   63.67  n/a     .000
                    +     1.0 02:N_TO         54840.70  147.653 No_date   36:19   39.31  n/a     .000
                    +     1.0 02:MH105-JR        36.57    8.679 No_date   28:10   63.16  n/a     .000
                    +     1.0 02:A8-MJ-JR          .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A9-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A10-MJ            .09     .218 No_date   28:05   59.73  n/a     .000
                    +     1.0 02:A11-MJ            .16     .564 No_date   28:06   67.38  n/a     .000
                    +     1.0 02:A12-MJ            .23     .599 No_date   28:05   62.88  n/a     .000
                    +     1.0 02:A13-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:corrig       55020.08  148.408 No_date   36:18   39.39  n/a     .000
R0100:C00384-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:corrig       55020.08  148.408 No_date   36:18   39.39  n/a     .000
      fname :corrig.0100
      remark:Total Flows at Corrigan Pond
#***************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#***************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0100:C00385-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:corrig       55020.08  148.408 No_date   36:18   39.39  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_MI         55020.08  148.389 No_date   36:21   39.39  n/a     .000
      [L/S/n=  580./ .445/.045]
      {Vmax= 2.187:Dmax= 2.147}
#***************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#***************************************************************************
R0100:C00386-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:MILLS          175.99   20.390 No_date   28:06   56.87 .642     .000
      [XIMP=.38:TIMP=.38]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
#***************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#***************************************************************************
R0100:C00387-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:MILLS          175.99   20.390 No_date   28:06   56.87  n/a     .000
                out <=    1.0 01:MILL_P         146.22    4.050 No_date   28:08   56.87  n/a     .000
           overflow <=    1.0 03:MIL-OV          29.77   16.228 No_date   28:08   56.87  n/a     .000
     {MxStoUsed=.2310E+01  m3, TotOvfVol=.1693E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0100:C00388-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_MI         55020.08  148.389 No_date   36:21   39.39  n/a     .000
                    +     1.0 02:MIL-OV          29.77   16.228 No_date   28:08   56.87  n/a     .000
                    +     1.0 02:MILL_P         146.22    4.050 No_date   28:08   56.87  n/a     .000
                 SUM=     1.0 01:SN_MI        55196.07  149.100 No_date   36:20   39.44  n/a     .000
R0100:C00389-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_MI        55196.07  149.100 No_date   36:20   39.44  n/a     .000
      fname :SN_MI.0100
      remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0100:C00390-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_MI        55196.07  149.100 No_date   36:20   39.44  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_DE         55196.07  148.761 No_date   36:32   39.44  n/a     .000
      [L/S/n= 1962./ .223/.045]
      {Vmax= 1.650:Dmax= 2.683}
#***************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#***************************************************************************
R0100:C00391-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:DESIRE          23.78    3.004 No_date   28:03   53.11 .600     .000
      [XIMP=.25:TIMP=.25]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
#***************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#***************************************************************************
R0100:C00392-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:JOCKVA         225.13   28.623 No_date   28:07   62.70 .708     .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0100:C00393-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EX-LAND-MN      30.73    2.275 No_date   27:48   62.82  n/a     .000
                    +     1.0 02:JOCKVA         225.13   28.623 No_date   28:07   62.70  n/a     .000
                    +     1.0 02:B2-MJ             .36     .820 No_date   28:05   62.88  n/a     .000
                    +     1.0 02:B3-MJ             .19     .402 No_date   28:04   62.88  n/a     .000
                 SUM=     1.0 01:JOCKVA-TO      256.41   31.850 No_date   28:06   62.71  n/a     .000
R0100:C00394-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:JOCKVA-TO      256.41   31.850 No_date   28:06   62.71  n/a     .000
      fname :JOCKVA-TO.0100
      remark:Total Flows at KB first pond
#***************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#***************************************************************************
R0100:C00395-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO      256.41   31.850 No_date   28:06   62.71  n/a     .000
                out <=    1.0 01:JOCK_P         256.41   12.850 No_date   28:35   62.71  n/a     .000
           overflow <=    1.0 03:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6430E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00396-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_DE         55196.07  148.761 No_date   36:32   39.44  n/a     .000
                    +     1.0 02:DESIRE          23.78    3.004 No_date   28:03   53.11  n/a     .000
                    +     1.0 02:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:JOCK_P         256.41   12.850 No_date   28:35   62.71  n/a     .000
                 SUM=     1.0 01:SN_DE        55476.26  149.819 No_date   36:30   39.56  n/a     .000
R0100:C00397-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_DE        55476.26  149.819 No_date   36:30   39.56  n/a     .000
      fname :SN_DE.0100
      remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0100:C00398-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_DE        55476.26  149.819 No_date   36:30   39.56  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N1           55476.26  149.806 No_date   36:33   39.56  n/a     .000
      [L/S/n=  563./ .967/.045]
      {Vmax= 2.234:Dmax= 1.340}
#***************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#***************************************************************************
R0100:C00399-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-2            102.94    5.685 No_date   28:20   40.95 .462     .000
      [CN= 72.0: N= 3.00: Tp=  .40]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0100:C00400-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N1           55476.26  149.806 No_date   36:33   39.56  n/a     .000
                    +     1.0 02:S-2            102.94    5.685 No_date   28:20   40.95  n/a     .000
                 SUM=     1.0 01:SN_N1        55579.20  150.120 No_date   36:32   39.56  n/a     .000
R0100:C00401-------------DTmin-ID:NHYD----------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_N1        55579.20  150.120 No_date   36:32   39.56  n/a     .000
      fname :SN_N1.0100
      remark:Total Flows at Rideau River
###########################################################################
R0100:C00002------------------------------------------------------------------------------------------
    FINISH
------------------------------------------------------------------------------------------------------
******************************************************************************************************
      WARNINGS / ERRORS / NOTES
      -------------------------
R0002:C00281  ROUTE RESERVOIR
*** WARNING: Inflow peak was not reduced! Check OUTFLOW STORAGE table or reduce DT.
R0002:C00303  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00309  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00342  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0002:C00362  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00369  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00370  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00378  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00379  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00281  ROUTE RESERVOIR
*** WARNING: Inflow peak was not reduced! Check OUTFLOW STORAGE table or reduce DT.
R0005:C00303  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00309  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00325  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00326  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00334  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00342  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0005:C00357  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00362  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00369  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00370  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00378  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00379  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00303  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00309  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00325  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00326  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00334  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00342  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0010:C00357  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00362  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00369  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00370  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00378  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00379  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00303  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00309  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00325  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00326  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00334  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00342  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0025:C00357  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00362  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00369  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00370  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00378  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00379  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00303  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00309  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00325  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00326  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00334  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00342  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0050:C00357  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00362  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00369  ROUTE PIPE      ->
```

```
*** WARNING: New pipe size used for routing.
R0050:C00370  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00378  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00379  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00303  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00309  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00325  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00326  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00334  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00342  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0100:C00357  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00362  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00369  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00370  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00378  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00379  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
   Simulation ended on 2021-03-04    at 11:53:36
==========================================================================================
```

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment D

Model 4A – Jock River Reach One Future Conditions – Without SWM controls

JFSA, 2021

SWMHYMO Input & Summary files

```
20    Metric units / ID numbers OFF
*#****************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#****************************************************************************
*#  Project Name: [Jock River]     Project Number: [1474-16]
*#  Date          : 04-03-2021
*#  Modeller      : [M M]
*#  Company       : JFSAinc.
*#  License #     :  2549237
*#****************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
*# 2020-12-01 correct pond curve values
*# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per Stantec Report 2007) to 0.05 %so the model will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs aren't well suited to really flat slopes.
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per Stantec Report 2007) to 0.0255 %so the model will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs aren't well suited to really flat slopes.
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# --------------------------------------------------------------------------
*
*START                 TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                      ["XAVG0315.STM"] average storm data a 15 minute time step
*                      The above rainf file is an average of the JFSA gauge data
*                      with the City of Ottawa rainfall data collected during
*                      the same period.
*% 2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                 TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[2]
                      ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
READ STORM            STORM_FILENAME=["storm.001"]
*%-----------------|-----------------------------------------------------------|
MODIFY STORM          ICASEms=[1],  NSHIFT=[96],
                      RedFACT=[1],
*%-----------------|-----------------------------------------------------------|
DEFAULT VALUES        ICASEdef=[1],  read and print values
                      DEFVAL_FILENAME=["CitiGate.DEF"]
*%-----------------|-----------------------------------------------------------|
COMPUTE API           APII=[50],  APIK=[.85]/day
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["JR_HW"], DT=[1]min, AREA=[3680](ha),
                      DWF=[0](cms),  CN/C=[64], IA=[2.5](mm),
                      N=[3.0],  TP=[7.13]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
```

```
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["SW_13"], DT=[1]min, AREA=[971](ha),
                         DWF=[0](cms),   CN/C=[61], IA=[2.5](mm),
                         N=[3.0], TP=[3.76]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[12](hrs)
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["JR_GWM"], DT=[1]min, AREA=[3074](ha),
                         DWF=[0](cms),   CN/C=[55], IA=[2.5](mm),
                         N=[3], TP=[11.33]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[12](hrs)
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["JR_ASH"], DT=[1]min, AREA=[1781](ha),
                         DWF=[0](cms),   CN/C=[72], IA=[2.5](mm),
                         N=[3.0], TP=[3.91]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[12](hrs)
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["SW_11"], DT=[1]min, AREA=[500](ha),
                         DWF=[0](cms),   CN/C=[66], IA=[2.5](mm),
                         N=[3.0], TP=[1.24]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[12](hrs)
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["NN_CK"], DT=[1]min, AREA=[1917](ha),
                         DWF=[0](cms),   CN/C=[66], IA=[2.5](mm),
```

```
                        N=[3.0], TP=[5.29]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["SW_10"], DT=[1]min, AREA=[5666](ha),
                        DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                        N=[3.0], TP=[8.00]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["KG_CK"], DT=[1]min, AREA=[8376](ha),
                        DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                        N=[3.0], TP=[11.66]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["SW_9"], DT=[1]min, AREA=[1132](ha),
                        DWF=[0](cms),  CN/C=[70], IA=[2.5](mm),
                        N=[3.0], TP=[2.51]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["NC_CK"], DT=[1]min, AREA=[4464](ha),
                        DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                        N=[3.0], TP=[11.32]hrs,
                        Continuous simulation parameters:
```

```
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-----------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_8"], DT=[1]min, AREA=[131](ha),
                     DWF=[0](cms),   CN/C=[63], IA=[2.5](mm),
                     N=[3.0], TP=[0.90]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-----------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["HB_DR"], DT=[1]min, AREA=[3854](ha),
                     DWF=[0](cms),   CN/C=[66], IA=[2.5](mm),
                     N=[3.0], TP=[8.42]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-----------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_7"], DT=[1]min, AREA=[3197](ha),
                     DWF=[0](cms),   CN/C=[57], IA=[2.5](mm),
                     N=[3.0], TP=[6.65]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-----------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_6"], DT=[1]min, AREA=[165](ha),
                     DWF=[0](cms),   CN/C=[67], IA=[2.5](mm),
                     N=[3.0], TP=[4.18]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|------------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%-----------------|------------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["VG_DR"], DT=[1]min, AREA=[1332](ha),
                            DWF=[0](cms),   CN/C=[72], IA=[2.5](mm),
                            N=[3.0], TP=[5.95]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|------------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5"], DT=[1]min, AREA=[224](ha),
                            DWF=[0](cms),   CN/C=[77], IA=[2.5](mm),
                            N=[3.0], TP=[0.75]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|------------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%-----------------|------------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["FL_CK"], DT=[1]min, AREA=[4945](ha),
                            DWF=[0](cms),   CN/C=[74], IA=[2.5](mm),
                            N=[3.0], TP=[4.45]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|------------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5A2"], DT=[1]min, AREA=[20](ha),
                            DWF=[0](cms),   CN/C=[81], IA=[2.5](mm),
                            N=[3.0], TP=[0.62]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|------------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%-----------------|------------------------------------------------------------------|
```

```
CONTINUOUS NASHYD    NHYD=["SW_5A1"], DT=[1]min, AREA=[1412](ha),
                     DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
                     N=[3.0], TP=[8.00]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_4"], DT=[1]min, AREA=[585](ha),
                     DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                     N=[3.0], TP=[1.75]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["LM_CK"], DT=[1]min, AREA=[1021](ha),
                     DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                     N=[3.0], TP=[2.46]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_2"], DT=[1]min, AREA=[177](ha),
                     DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                     N=[3.0], TP=[0.75]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SM_DR"], DT=[1]min, AREA=[1122](ha),
                     DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                     N=[3.0], TP=[3.25]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["MO_DR"], DT=[1]min, AREA=[2737](ha),
                     DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                     N=[3.0], TP=[3.03]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2020 replaced SW_1 with a detailed model from Stantec Report 2007
*CONTINUOUS NASHYD   NHYD=["SW_1"], DT=[1]min, AREA=[3176](ha),
*                    DWF=[0](cms),   CN/C=[78], IA=[2.5](mm),
*                    N=[3.0], TP=[3.56]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Routing hydrographs
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD                 NHYDsum=["S_N13"], NHYDs to add=["JR_HW"+"SW_13"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL           NHYDout=["N13A"] ,NHYDin=["S_N13"],
                        RDT=[1](min),
                        CHLGTH=[9074](m),   CHSLOPE=[0.0220](%),
                                            FPSLOPE=[0.0220](%),
                        SECNUM=[1.0],       NSEG=[1]
                        ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                              [-40, 132.5]
                              [-30, 132]
                              [-25, 131.5]
                              [-13, 130]
                              [-8, 127.00]
                              [-7, 126.50]
                              [-6, 126]
                              [-5.5, 125.50]
                              [0, 123.75]
                              [4.5, 125.50]
                              [6, 126]
                              [7.5, 126.5]
                              [9, 127]
                              [10, 127.5]
                              [11.5, 128.0]
                              [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD                 NHYDsum=["SN13A"], NHYDs to add=["N13A"+"JR_GWM"]
*%-----------------|-------------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR         NHYDout=["RES_GM"] ,NHYDin=["SN13A"],
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                          (cms) - (ha-m)
                                        [    0.0 ,   0.0 ]
                                        [1.991,  2.144    ]
                                        [2.693,  39.826   ]
                                        [3.509,  81.697   ]
                                        [4.578,  318.774  ]
                                        [5.647,  594.947  ]
                                        [7.109,  910.219  ]
                                        [8.616,  1264.589  ]
                                        [10.371,  1658.057  ]
                                        [12.402,  2090.622 ]
                                        [22.056,  3462.487 ]
                                        [    -1   ,   -1   ]  (max twenty pts)
                              NHYDovf=["        "] ,
*%-----------------|-----------------------------------------------------------|
*#
SAVE HYD                 NHYD=["RES_GM"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                         HYD_FILENAME=["H_RESGM"]
                         HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-----------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL            NHYDout=["N12"] ,NHYDin=["RES_GM"] ,
                         RDT=[1](min),
                         CHLGTH=[5926](m),   CHSLOPE=[0.0759](%),
                                             FPSLOPE=[0.0759](%),
                         SECNUM=[1.0],         NSEG=[1]
                         ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=
                               [-40, 132.5]
                               [-30, 132]
                               [-25, 131.5]
                               [-13, 130]
                               [-8, 127.00]
                               [-7, 126.50]
                               [-6, 126]
                               [-5.5, 125.50]
                               [0, 123.75]
                               [4.5, 125.50]
                               [6, 126]
                               [7.5, 126.5]
                               [9, 127]
                               [10, 127.5]
                               [11.5, 128.00]
                               [15.5, 129.5]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD                  NHYDsum=["S_N12"], NHYDs to add=["N12"+"JR_ASH"]
SAVE HYD                 NHYD=["S_N12"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                         HYD_FILENAME=["H_SN12"]
                         HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*ROUTE CHANNEL            NHYDout=["N11"] ,NHYDin=["S_N12"] ,
*                         RDT=[1](min),
*                         CHLGTH=[972](m),   CHSLOPE=[0.0514](%),
*                                             FPSLOPE=[0.0514](%),
*                         SECNUM=[1.0],         NSEG=[1]
*                         ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
*                         ( DISTANCE (m), ELEVATION (m))=
```

```
*                          [-40, 132.5]
*                          [-30, 132]
*                          [-25, 131.5]
*                          [-13, 130]
*                          [-8, 127.00]
*                          [-7, 126.50]
*                          [-6, 126]
*                          [-5.5, 125.50]
*                          [0, 123.75]
*                          [4.5, 125.50]
*                          [6, 126]
*                          [7.5, 126.5]
*                          [9, 127]
*                          [10, 127.5]
*                          [11.5, 128.00]
*                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL       NHYDout=["Dum11"] ,NHYDin=["S_N12"] ,
                    RDT=[1](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                        FPSLOPE=[0.054](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD             NHYDsum=["S_N11"], NHYDs to add=["Dum11"+"SW_11"+"NN_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL       NHYDout=["N10"] ,NHYDin=["S_N11"] ,
                    RDT=[1](min),
                    CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                        FPSLOPE=[0.1568](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                     [0.04,-52.82
                      0.1,-6.47
                      -0.05,6.47
                      0.1,45.36
                      0.04,423.88] NSEG times
                   ( DISTANCE (m), ELEVATION (m))=
                          [-226.24 ,112.50]
```

```
                                  [-167.50 ,111.50]
                                  [-106.81 ,111.00]
                                  [-92.37 ,110.00]
                                  [-52.82 ,109.00]
                                  [-24.90, 109.00]
                                  [-17.02, 108.50]
                                  [-6.47, 108.00]
                                  [6.47, 108.00]
                                  [15.67, 108.50]
                                  [18.95, 109.00]
                                  [45.36, 109.50]
                                  [120.79, 110.00]
                                  [145.72, 111.00]
                                  [181.56, 111.50]
                                  [423.88, 112.50]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD                 NHYDsum=["S_N10"], NHYDs to add=["N10"+"SW_10"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                NHYD=["S_N10"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                        HYD_FILENAME=["H_SN10"]
                        HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|-------------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD                 NHYDsum=["S_N10A"], NHYDs to add=["S_N10"+"KG_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL           NHYDout=["N9"] ,NHYDin=["S_N10A"] ,
                        RDT=[1](min),
                        CHLGTH=[3982](m),   CHSLOPE=[0.0753](%),
                                             FPSLOPE=[0.0753](%),
                        SECNUM=[1.0],        NSEG=[4]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.04,-30.27
                           0.05,-18.42
                          -0.05,18.42
                          0.04,131.58] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                                  [-446.74, 106.00]
                                  [-415.68, 105.50]
                                  [-285.40, 105.00]
                                  [-173.77, 104.50]
                                  [-144.95, 104.00]
                                  [-111.18, 103.50]
                                  [-94.06, 103.00]
                                  [-71.02, 102.50]
                                  [-30.27, 102.00]
                                  [-19.33, 100.00]
                                  [-18.42, 99.50]
                                  [18.42, 99.50]
                                  [20.77, 100.00]
                                  [27.93, 101.00]
                                  [52.29, 101.00]
                                  [68.80, 101.50]
                                  [79.66, 103.00]
                                  [91.50, 103.50]
                                  [131.58, 104.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
```

```
*#
ADD HYD                NHYDsum=["S_N9"], NHYDs to add=["N9"+"SW_9"+"NC_CK"]
*%----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL          NHYDout=["N8"] ,NHYDin=["S_N9"] ,
                       RDT=[1](min),
                       CHLGTH=[2269](m),   CHSLOPE=[0.0882](%),
                                           FPSLOPE=[0.0882](%),
                       SECNUM=[1.0],       NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.1,-17.99
                         -0.045,17.31
                         0.1,456.58] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                             [-201.19,100.50]
                             [-135.21, 100.00]
                             [-94.83, 99.50]
                             [-67.05, 99.00]
                             [-17.99, 98.50]
                             [-16.02, 98.00]
                             [-13.95, 97.50]
                             [13.95, 97.50]
                             [15.64, 98.00]
                             [17.31, 98.50]
                             [162.02, 98.50]
                             [172.89 ,99.00]
                             [314.38, 99.00]
                             [343.78, 99.50]
                             [365.67, 100.00]
                             [376.68, 100.00 ]
                             [393.11, 99.50]
                             [404.97, 99.50]
                             [431.70, 100.00]
                             [456.58, 100.50 ]
*%----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD                NHYDsum=["S_N8"], NHYDs to add=["N8"+"SW_8"+"HB_DR"]
*%----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL          NHYDout=["N7"] ,NHYDin=["S_N8"],
                       RDT=[1](min),
                       CHLGTH=[3750](m),   CHSLOPE=[0.0533](%),
                                           FPSLOPE=[0.0533](%),
                       SECNUM=[1.0],       NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.12,-18.11
                         -0.07,17.22
                         0.12,590.05] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                             [-433.21, 102.00]
                             [-425.34, 101.50]
                             [-377.56, 101.50]
                             [-366.23, 101.00]
                             [-202.60, 100.50]
                             [-96.25, 99.50]
                             [-68.36 99.00]
                             [-18.11, 98.50]
                             [-13.81, 97.50]
```

```
                            [13.81,  97.50]
                            [17.22,  98.50]
                            [161.95, 98.50]
                            [173.11, 99.00]
                            [314.05, 99.00]
                            [365.52, 100.00]
                            [404.70, 99.50]
                            [476.74, 100.50]
                            [502.31, 101.00]
                            [584.69, 101.00]
                            [585.79, 101.00]
                            [590.05, 102.00]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD                 NHYDsum=["S_N7"], NHYDs to add=["N7"+"SW_7"]
*%-----------------|------------------------------------------------------------|
SAVE HYD                NHYD=["S_N7"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                        HYD_FILENAME=["H_SN7"]
                        HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|------------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR         NHYDout=["RES_RF"] ,NHYDin=["S_N7"] ,
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [    0.0 ,      0.0 ]
                                        [0.9051,     2.40]
                                        [2.907,      4.13]
                                        [9.744,      9.18]
                                        [20.304,    14.96]
                                        [34.167,   310.21]
                                        [74.993,   605.46]
                                        [104.876,  900.71]
                                        [140.56,  2892.00]
                                        [225.00,  3615.63]
                                        [    -1   ,   -1   ]  (max twenty pts)
                              NHYDovf=["       "] ,
*%-----------------|------------------------------------------------------------|
SAVE HYD                NHYD=["RES_RF"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                        HYD_FILENAME=["H_ResRF"]
                        HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL           NHYDout=["N6"] ,NHYDin=["RES_RF"] ,
                        RDT=[1](min),
                        CHLGTH=[3056](m),   CHSLOPE=[0.0818](%),
                                            FPSLOPE=[0.0818](%),
                        SECNUM=[1.0],       NSEG=[5]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.025,-70.8
                          0.1,-23.9
                          -0.05,23.9
                          0.06,39.8
```

```
                         0.05,96.3] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                                       [-100.8, 97.00]
                                       [-70.8, 96.50]
                                       [-52.0, 96.00]
                                       [-35.1, 95.50]
                                       [-30.6, 95.00]
                                       [-23.9, 94.54]
                                       [23.9, 94.54]
                                       [39.8, 95.00]
                                       [50.4, 95.50]
                                       [93.5, 96.00]
                                       [94.9, 96.50]
                                       [96.3, 97.00]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD                NHYDsum=["S_N6"], NHYDs to add=["N6"+"SW_6"+"VG_DR"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL          NHYDout=["N5"] ,NHYDin=["S_N6"] ,
                       RDT=[1](min),
                       CHLGTH=[1852](m),   CHSLOPE=[0.0540](%),
                                             FPSLOPE=[0.0540](%),
                       SECNUM=[1.0],         NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.035,-131.59
                         -0.045,48.96
                         0.1,239.04] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                                       [-686.30, 94.50]
                                       [-675.70, 94.00]
                                       [-492.52, 93.00]
                                       [-467.28, 94.00]
                                       [-131.59, 94.00]
                                       [-92.79, 92.50]
                                       [-18.06, 91.00]
                                       [18.06, 91.00]
                                       [43.47, 92.50]
                                       [48.96, 94.00]
                                       [177.43, 94.00]
                                       [239.04,94.50]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD                NHYDsum=["S_N5"], NHYDs to add=["N5"+"SW_5"+"FL_CK"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL          NHYDout=["N5A"] ,NHYDin=["S_N5"] ,
                       RDT=[1](min),
                       CHLGTH=[556](m),   CHSLOPE=[0.0900](%),
                                             FPSLOPE=[0.0900](%),
                       SECNUM=[1.0],         NSEG=[4]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.04,-41.5
                         0.1,-14.0
                         -0.045,14.0
                         0.1,41.1] NSEG times
```

```
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-275.8, 93.00]
                                    [-248.6, 92.50]
                                    [-237.0, 92.00]
                                    [-219.3, 91.50]
                                    [-202.1, 91.50]
                                    [-186.0, 92.00]
                                    [-129.2, 92.00]
                                    [-117.6, 91.50]
                                    [-100.6, 91.00]
                                    [-41.5, 91.00]
                                    [-20.0, 91.00]
                                    [-14.0, 90.54]
                                    [14.0, 90.54]
                                    [15.3, 91.00]
                                    [17.3, 91.50]
                                    [38.4, 92.00]
                                    [39.8, 92.50]
                                    [41.1, 93.00]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD             NHYDsum=["S_N5A"], NHYDs to add=["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL       NHYDout=["N4"] ,NHYDin=["S_N5A"] ,
                    RDT=[1](min),
                    CHLGTH=[4630](m),   CHSLOPE=[0.0432](%),
                                         FPSLOPE=[0.0432](%),
                    SECNUM=[1.0],        NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.05,-28.2
                      -0.035,28.2
                      0.05,173.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-38.9, 92.00]
                                    [-35.8, 91.50]
                                    [-33.3, 91.00]
                                    [-28.2, 90.50]
                                    [-15.0, 87.48]
                                    [-5.0, 88.34]
                                    [5.0, 86.20]
                                    [15.0, 88.55]
                                    [28.2, 90.50]
                                    [29.7, 91.00]
                                    [46.5, 91.00]
                                    [127.8, 91.00]
                                    [148.7, 91.50]
                                    [173.1, 92.00]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD             NHYDsum=["S_N4"], NHYDs to add=["N4"+"SW_4"+"LM_CK"]
SAVE HYD            NHYD=["S_N4"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["flow at S_N4"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL       NHYDout=["N2"] ,NHYDin=["S_N4"] ,
```

```
                            RDT=[1](min),
                            CHLGTH=[1667](m),   CHSLOPE=[0.0600](%),
                                                FPSLOPE=[0.0600](%),
                            SECNUM=[1.0],       NSEG=[4]
                            ( SEGROUGH, SEGDIST (m))=
                              [0.1,-28.0
                              -0.04,28.4
                              0.06,31.7
                              0.04,80.2] NSEG times
                            ( DISTANCE (m), ELEVATION (m))=
                                   [-36.3, 92.00]
                                   [-32.6, 91.50]
                                   [-30.2, 91.00]
                                   [-28.0, 90.45]
                                   [-15.0, 87.48]
                                   [-5.0, 88.34]
                                   [5.0, 86.20]
                                   [15.0, 88.55]
                                   [28.0, 90.45]
                                   [28.4, 90.50]
                                   [30.4, 91.00]
                                   [31.7, 91.50]
                                   [80.2, 92.00]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD                     NHYDsum=["S_N2"], NHYDs to add=["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                    NHYD=["S_N2"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                            HYD_FILENAME=["H_SN2"]
                            HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
*#******************************************************************************
*%READ HYD                     NHYD=["S_N2"],
*%                            HYD_FILENAME=["H-S_N2"]
*%-----------------|-----------------------------------------------------------|
*#
*# Hydrograph from Node 2 routed to Node 416
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
*#
ROUTE CHANNEL               NHYDout=["N_416"] ,NHYDin=["S_N2"] ,
                            RDT=[1](min),
                            CHLGTH=[2327](m),   CHSLOPE=[0.0498](%),
                                                FPSLOPE=[0.0498](%),
                            SECNUM=[1.0],       NSEG=[3]
                            ( SEGROUGH, SEGDIST (m))=
                              [0.075,-23.96
                              -0.055,23.96
                              0.075,157.38]   NSEG times
                            ( DISTANCE (m), ELEVATION (m))=
                            [-336.97,93.5]
                            [-318.85,93]
                            [-259,92.5]
                            [-133.18,92]
                            [-33.17,92]
                            [-27.21,92]
                            [-26.14,91.5]
                            [-24.99,91]
                            [-23.96,90.5]
                            [-14.33,88.26]
                            [-0.68,88.12]
```

```
                            [14.33,88.26]
                            [23.96,90.5]
                            [32.12,91]
                            [43.74,91.5]
                            [57.09,92]
                            [73.53,92.5]
                            [108.27,93]
                            [125.88,93.5]
                            [144.81,94]
                            [157.38,94.5]
*%-----------------|-----------------------------------------------------------|
*#****************************************************************************
*#     Catchment SW-1a
*#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
*#     - Undeveloped agricultural land
*#****************************************************************************
CONTINUOUS NASHYD   NHYD=["SW_1a"], DT=[1]min, AREA=[536.42](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[2.79]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain
before station 7245 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                    MajNHYD=["S-1-OkMJ"]
*                    MinNHYD=["S-1-OkMN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                      (cms) - (ha-m)
*                                    [ 0.0     ,  0.0 ]
*                                    [ 0.5370,  1.7917 ]
*                                    [    -1   ,   -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-OkSovf"]
*%-----------------|-----------------------------------------------------------|
ADD HYD             NHYDsum=["SN_416"], NHYDs to add=["N_416"+"SW_1a"+"S-1-Okeefe"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD            NHYD=["SN_416"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Highway 416"]
*%-----------------|-----------------------------------------------------------|
*#
*# Hydrograph from Node 416 routed to Node at Okeefe drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
```

```
*#
ROUTE CHANNEL          NHYDout=["N_OK"] ,NHYDin=["SN_416"] ,
                       RDT=[1](min),
                       CHLGTH=[497](m),   CHSLOPE=[0.3018](%),
                                          FPSLOPE=[0.3018](%),
                       SECNUM=[1.0],         NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.075,-19.40
                         -0.055,19.40
                         0.075,377.02] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                       [-1061.41, 92.50]
                       [-945.91, 92.00]
                       [-783.64, 91.50]
                       [-136.74, 91.00]
                       [-86.04, 91.00]
                       [-20.86, 91.00]
                       [-20.18, 90.50]
                       [-19.40, 90.00]
                       [-11.68, 86.89]
                       [0.00, 86.10]
                       [12.09, 86.81]
                       [19.40, 90.00]
                       [34.68, 90.50]
                       [60.56, 91.00]
                       [170.14, 91.00]
                       [175.05, 90.50]
                       [180.29, 90.00]
                       [193.41, 90.00]
                       [195.98, 90.50]
                       [377.02, 92.50]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment OKEEFE
*#     - To O'Keefe drain (north of the Jock)
*#     - Developed with assumed 43% imp.
*#     - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
*#     - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
*%-----------------|-------------------------------------------------------------|
*POST DEVELOPMENT CONDITIONS
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
CONTINUOUS NASHYD      NHYD=["O-1"], DT=[1]min, AREA=[63.72](ha),
                       DWF=[0](cms), CN/C=[61], IA=[6.2](mm), N=[3], TP=[.9]hrs,
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),
                       SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
                       BaseFlowOption=[1] ,
                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                       VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|---------------------------------------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA 0-2
ROUTE CHANNEL          NHYDout=["O-1R"], NHYDin=["O-1"], RDT=[1](min),
                       CHLGTH=[960](m), CHSLOPE=[0.63](%), FPSLOPE=[0.63](%),
                       SECNUM=[1], NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=[0.06,4 -.043,6 0.06,10] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=[0.00, 2.0]
                       [0.0, 2.0]
                       [4.0, 0.0]
                       [6.0, 0.0]
                       [10.0, 2.0]
```

```
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-2"], DT=[1]min, AREA=[28.61](ha),
                    DWF=[0](cms), CN/C=[57], IA=[5.2](mm), N=[3], TP=[1.1]hrs,
                   Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-4"], DT=[1]min, AREA=[46.94](ha),
                    DWF=[0](cms), CN/C=[49], IA=[9.2](mm), N=[3], TP=[0.9]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL EXTERNAL FLOW NORTH OF O'KEEFE CT. CROSSING
ADD HYD             NHYDsum=["OKF-N"], NHYDs to add=["O-1R"+"O-2"+"O-4"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-6
ROUTE CHANNEL       ROUTE CHANNEL NHYDout=["OKF-NR"], NHYDin=["OKF-N"], RDT=[1](min),
                    CHLGTH=[210](m), CHSLOPE=[.81](%), FPSLOPE=[.81](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.043,22.43 -0.043,25.07
                    0.043,45.54] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 3.73]
                    (14.62, 1.56)
                    (18.41, 1.44)
                    (22.43, 0.00)
                    (25.07, 0.70)
                    (29.10, 1.79)
                    (33.73, 2.71)
                    (45.54, 3.58)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-6"], DT=[1]min, AREA=[16.46](ha),
                    DWF=[0](cms), CN/C=[43], IA=[9.2](mm), N=[3], TP=[0.7]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-3"], DT=[1](min), AREA=[39.67](ha), XIMP=[0.15],
TIMP=[0.30], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[50], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[0.32](%),
                    LGP=[440](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.32](%),
                    LGI=[1880](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-5"], DT=[1](min), AREA=[60.63](ha), XIMP=[0.13],
TIMP=[0.26], DWF=[0](cms),
```

```
                            LOSS=[2], SCS curve number CN=[61],
                            Pervious surfaces: IAper=[4.67](mm), SLPP=[1.38](%),
                            LGP=[550](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                            IAimp=[1.57](mm), SLPI=[1.38](%),
                            LGI=[1450](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                            SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*TOTAL EXTERNAL FLOWS WEST OF THE SITE AND NORTH OF O'KEEFE CRT
*%-----------------|-----------------------------------------------------------|
ADD HYD                     NHYDsum=["PT1"], NHYDs to add=["OKF-NR"+"O-3"+"O-5"+"O-6"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD           NHYD=["O-7"], DT=[1]min, AREA=[5.28](ha),
                            DWF=[0](cms), CN/C=[54], IA=[7.5](mm), N=[3], TP=[0.6]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*ANALYSIS POINT 1 - TOTAL FLOW NORTH OF FALLOWFIELD DR. AND O'KEEFE CRT.
ADD HYD                     NHYDsum=["FF"], NHYDs to add=["PT1"+"O-7"]
*%-----------------|-----------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 1
ROUTE CHANNEL               NHYDout=["DRAIN1"], NHYDin=["FF"], RDT=[1](min),
                            CHLGTH=[302]{m), CHSLOPE=[1.00](%), FPSLOPE=[1.00](%),
                            SECNUM=[1], NSEG=[3]
                            ( SEGROUGH, SEGDIST (m))=[0.07,13.45 -0.043,16.55 0.07,30.00] NSEG
                            times
                            ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                            (3.45, 0.60)
                            (13.45, 0.50)
                            (14.45, 0.00)
                            (15.55, 0.00)
                            (16.55, 0.50)
                            (26.55, 0.60)
                            (30.00, 1.70)
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD           NHYD=["D1"], DT=[1]min, AREA=[1.17](ha),
                            DWF=[0](cms), CN/C=[84], IA=[9.0](mm), N=[3], TP=[0.28]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A1"], DT=[1]min, AREA=[2.50](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[223.607](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|-----------------------------------------------------------|
```

```
ROUTE RESERVOIR       NHYDout=["A1-STR"], NHYDin=["A1"], RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.000 , 0.000 ]
                                    [ 0.035 , 0.038 ]
                                    [ 0.072 , 0.051 ]
                                    [ 0.100 , 0.059 ]
                                    [ 0.125 , 0.070 ]
                                    [ 0.160 , 0.074 ]
                                    [ 0.185 , 0.081 ]
                                    [ -1 , -1 ] (max twenty pts)
                                    NHYDovf=["A1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-2"], DT=[1]min, AREA=[0.59](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[108.628](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       NHYDout=["ST2STR"], NHYDin=["ST-2"], RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.000 , 0.0000 ]
                                    [ 0.052 , 0.0010 ]
                                    [ 0.053 , 0.0080 ]
                                    [ -1 , -1 ] (max twenty pts)
                                    NHYDovf=["ST2OVF"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*TOTAL FLOW NORTH OF STRANDHERD DR. (EAST BRANCH) CROSSING
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-8"], DT=[1]min, AREA=[60.55](ha),
                    DWF=[0](cms), CN/C=[69], IA=[4.0](mm), N=[3], TP=[1.0]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[2]rect, NHYDout=["O8PIPE"], RNUMBER=[1], PWIDTH=[1800](mm),
PHEIGHT=[1200](mm), PLNGTH=[335.1](m),
                    PROUGH=[0.013], PSLOPE=[0.001](m/m), NHYDin=["O-8"], RDT=[1](min)
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["ST2-IN"], NHYDs to
add=["DRAIN1"+"D1"+"A1-STR"+"A1-OVF"+"ST2STR"+"ST2OVF"+"O8PIPE"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A7"], DT=[1]min, AREA=[3.51](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[264.953](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
```

```
                            END=-1
*%-----------------|---------------------------------------------------------------|
ROUTE RESERVOIR             NHYDout=["A7-STR"], NHYDin=["A7"], RDT=[1](min),
                                   TABLE of ( OUTFLOW-STORAGE ) values
                                             (cms) - (ha-m)
                                          [ 0.000 , 0.000 ]
                                          [ 0.049 , 0.054 ]
                                          [ 0.102 , 0.072 ]
                                          [ 0.140 , 0.082 ]
                                          [ 0.175 , 0.099 ]
                                          [ 0.225 , 0.105 ]
                                          [ 0.260 , 0.114 ]
                                          [ -1 , -1 ] (max twenty pts)
                                          NHYDovf=["A7-OVF"]
*%-----------------|---------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-3"], DT=[1]min, AREA=[0.71](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[119.164](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|---------------------------------------------------------------|
ROUTE RESERVOIR             NHYDout=["ST3STR"], NHYDin=["ST-3"], RDT=[1](min),
                                   TABLE of ( OUTFLOW-STORAGE ) values
                                             (cms) - (ha-m)
                                          [ 0.000 , 0.0000 ]
                                          [ 0.063 , 0.0010 ]
                                          [ 0.064 , 0.0094 ]
                                          [ -1 , -1 ] (max twenty pts)
                                          NHYDovf=["ST3OVF"]
*%-----------------|---------------------------------------------------------------|
*ANALYSIS POINT 2 - TOTAL FLOW AT OUTLET OF STREET 2/3 INTERSECTION
*%-----------------|---------------------------------------------------------------|
ADD HYD                     NHYDsum=["PT2ST3"], NHYDs to
add=["ST2-IN"+"A7-STR"+"A7-OVF"+"ST3STR"+"ST3OVF"]
*%-----------------|---------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 2
ROUTE CHANNEL               NHYDout=["DRAIN2"], NHYDin=["PT2ST3"], RDT=[1](min),
                            CHLGTH=[592]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                                                SECNUM=[1], NSEG=[3]
                            ( SEGROUGH, SEGDIST (m))=[0.07,12.60 -0.043,17.40 0.07,30.00] NSEG
                            times
                            ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                            (2.60, 0.95)
                            (12.60, 0.75)
                            (14.10, 0.00)
                            (15.90, 0.00)
                            (17.40, 0.75)
                            (27.40, 0.95)
                            (30.00, 1.70)
*%-----------------|---------------------------------------------------------------|
CONTINUOUS NASHYD           NHYD=["D2"], DT=[1]min, AREA=[2.28](ha), DWF=[0](cms), CN/C=[84],
IA=[9.0](mm),
                            N=[3], TP=[0.99]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
```

```
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A17"], DT=[1]min, AREA=[12.04](ha), XIMP=[0.68],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                        Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
                        Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                        MNP=[0.250], SCP=[0](min),
                        Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                        LGI=[490.714](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR         NHYDout=["A17STR"], NHYDin=["A17"], RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [  0.000 ,  0.000 ]
                                  [  0.169 ,  0.185 ]
                                  [  0.349 ,  0.248 ]
                                  [  0.482 ,  0.283 ]
                                  [  0.602 ,  0.338 ]
                                  [  0.771 ,  0.359 ]
                                  [  0.891 ,  0.391 ]
                                  [  -1 ,  -1 ] (max twenty pts)
                                  NHYDovf=["A17OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-4"], DT=[1]min, AREA=[0.35](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                        Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
                        Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                        MNP=[0.250], SCP=[0](min),
                        Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[83.666](m),
                        MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR         NHYDout=["ST4STR"], NHYDin=["ST-4"], RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [  0.000 ,  0.0000 ]
                                  [  0.031 ,  0.0010 ]
                                  [  0.032 ,  0.0050 ]
                                  [  -1 ,  -1 ] (max twenty pts)
                                  NHYDovf=["ST4OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A18"], DT=[1]min, AREA=[5.30](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                        Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
                        Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                        MNP=[0.250], SCP=[0](min),
                        Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                        LGI=[325.576](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR         NHYDout=["A18STR"], NHYDin=["A18"], RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [  0.000 ,  0.000 ]
                                  [  0.074 ,  0.082 ]
                                  [  0.154 ,  0.109 ]
```

```
                                        [ 0.212 , 0.125 ]
                                        [ 0.265 , 0.149 ]
                                        [ 0.339 , 0.158 ]
                                        [ 0.392 , 0.172 ]
                                        [ -1 , -1 ] (max twenty pts)
                                        NHYDovf=["A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 3 - TOTAL FLOW AT OUTLET OF STREET 4
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["PT3ST4"], NHYDs to
add=["DRAIN2"+"D2"+"A17STR"+"A17OVF"+"ST4STR"+"ST4OVF"+"A18STR"+"A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 3
ROUTE CHANNEL            NHYDout=["DRAIN3"], NHYDin=["PT3ST4"], RDT=[1](min),
                         CHLGTH=[525]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                         SECNUM=[1], NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=[0.07,12.50 -0.043,17.50 0.07,30.00] NSEG
                         times
                         ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                         (2.50, 1.00)
                         (12.50, 0.80)
                         (14.10, 0.00)
                         (15.90, 0.00)
                         (17.50, 0.80)
                         (27.50, 1.00)
                         (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD        NHYD=["D3"], DT=[1]min, AREA=[2.51](ha),
                         DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.73]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[12](hrs)
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C1"], DT=[1]min, AREA=[3.41](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                         LGI=[261.151](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR          NHYDout=["C1-STR"], NHYDin=["C1"], RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [ 0.000 , 0.000 ]
                                        [ 0.048 , 0.052 ]
                                        [ 0.099 , 0.070 ]
                                        [ 0.136 , 0.080 ]
                                        [ 0.170 , 0.096 ]
                                        [ 0.218 , 0.102 ]
                                        [ 0.252 , 0.111 ]
                                        [ -1 , -1 ] (max twenty pts)
                                        NHYDovf=["C1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-5"], DT=[1]min, AREA=[0.45](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
```

```
                                F=[0.00](mm),
                                Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                                MNP=[0.250], SCP=[0](min),
                                Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[94.868](m),
                                MNI=[0.013], SCI=[0](min),
                                Continuous simulation parameters:
                                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                                END=-1
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR                 NHYDout=["ST5STR"], NHYDin=["ST-5"], RDT=[1](min),
                                     TABLE of ( OUTFLOW-STORAGE ) values
                                               (cms) - (ha-m)
                                             [ 0.000 , 0.0000 ]
                                             [ 0.040 , 0.0010 ]
                                             [ 0.041 , 0.0062 ]
                                             [ -1 , -1 ] (max twenty pts)
                                             NHYDovf=["ST5OVF"]
*%-----------------|------------------------------------------------------------|
ADD HYD                         NHYDsum=["ST5-E"], NHYDs to
add=["DRAIN3"+"D3"+"C1-STR"+"C1-OVF"+"ST5STR"+"ST5OVF"]
*%-----------------|------------------------------------------------------------|
CONTINUOUS STANDHYD             NHYD=["STRAND"], DT=[1](min), AREA=[7.59](ha),
                                XIMP=[0.64], TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                                F=[0.00](mm),
                                Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                                MNP=[0.250], SCP=[0](min),
                                Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[1230](m),
                                MNI=[0.013], SCI=[0](min),
                                Continuous simulation parameters:
                                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                                END=-1
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR                 NHYDout=["S-POND"], NHYDin=["STRAND"], RDT=[1](min),
                                     TABLE of ( OUTFLOW-STORAGE ) values
                                               (cms) - (ha-m)
                                             [ 0.000 , 0.000 ]
                                             [ 0.033 , 0.188 ]
                                             [ 0.057 , 0.253 ]
                                             [ 0.104 , 0.287 ]
                                             [ 0.160 , 0.336 ]
                                             [ 0.340 , 0.346 ]
                                             [ 0.471 , 0.360 ]
                                             [ 0.824 , 0.390 ]
                                             [ -1 , -1 ] (max twenty pts)
                                             NHYDovf=["S-OVF"]
*%-----------------|------------------------------------------------------------|
ADD HYD                         NHYDsum=["SSAOUT"], NHYDs to add=["ST5-E"+"S-POND"+"S-OVF"]
*%-----------------|------------------------------------------------------------|
SAVE HYD                        NHYD=["SSAOUT"], # OF PCYCLES=[5], ICASEsh=[1]
                                HYD_COMMENT=["SSAOUT"]
*%-----------------|------------------------------------------------------------|
CONTINUOUS STANDHYD             NHYD=["Area-A"], DT=[1]min, AREA=[66.75](ha), XIMP=[0.64],
TIMP=[0.80], DWF=[0](cms), LOSS=[1]:
                                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                                F=[0.00](mm),
                                Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                                MNP=[0.250], SCP=[0](min),
                                Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                                LGI=[1155.422](m), MNI=[0.013], SCI=[0](min),
                                Continuous simulation parameters:
                                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                                END=-1
*%-----------------|------------------------------------------------------------|
SAVE HYD                        NHYD=["Area-A"], # OF PCYCLES=[1], ICASEsh=[1]
                                HYD_COMMENT=["SMWF-A Inflow"]
```

```
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["SWMF-A"], NHYDin=["Area-A"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.103 , 1.077 ]
                                 [ 0.128 , 1.749 ]
                                 [ 0.382 , 2.282 ]
                                 [ 0.703 , 2.582 ]
                                 [ 1.256 , 2.978 ]
                                 [ 1.567 , 3.202 ]
                                 [ 1.955 , 3.493 ]
                                 [ 2.100 , 3.600 ]
                                 [ -1 , -1 ] (max twenty pts)
                                 NHYDovf=["SWMAOV"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SWMF-A"], # OF PCYCLES=[1], ICASEsh=[1]
                    HYD_COMMENT=["SMWF-A Outflow"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 4 - TOTAL FLOW AT OUTLET OF STREET 5
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT4ST5"], NHYDs to add=["SSAOUT"+"SWMF-A"+"SWMAOV"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C6"], DT=[1]min, AREA=[1.87](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[193.391](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C6-STR"], NHYDin=["C6"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.026 , 0.029 ]
                                 [ 0.054 , 0.038 ]
                                 [ 0.075 , 0.044 ]
                                 [ 0.093 , 0.052 ]
                                 [ 0.120 , 0.056 ]
                                 [ 0.138 , 0.061 ]
                                 [ -1 , -1 ] (max twenty pts)
                                 NHYDovf=["C6-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C7"], DT=[1]min, AREA=[1.62](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C7-STR"], NHYDin=["C7"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.023 , 0.025 ]
                                 [ 0.047 , 0.033 ]
```

```
                                    [ 0.065 , 0.038 ]
                                    [ 0.081 , 0.045 ]
                                    [ 0.104 , 0.048 ]
                                    [ 0.120 , 0.053 ]
                                    [ -1 , -1 ] (max twenty pts)
                                    NHYDovf=["C7-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-6"], DT=[1]min, AREA=[0.41](ha),XIMP=[0.46], TIMP=[0.57],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[90.554](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST6STR"], NHYDin=["ST-6"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                [ 0.000 , 0.0000 ]
                                [ 0.036 , 0.0010 ]
                                [ 0.037 , 0.0058 ]
                                [ -1 , -1 ] (max twenty pts)
                                NHYDovf=["ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 5 - TOTAL FLOW AT OUTLET OF STREET 6
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT5ST6"], NHYDs to
add=["PT4ST5"+"C6-STR"+"C6-OVF"+"C7-STR"+"C7-OVF"+"ST6STR"+"ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 4
ROUTE CHANNEL       NHYDout=["DRAIN4"], NHYDin=["PT5ST6"], RDT=[1](min),
                    CHLGTH=[324]{m), CHSLOPE=[.10](%), FPSLOPE=[.10](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.00 -0.043,18.00 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 2.00]
                    (2.00, 1.20)
                    (12.00, 1.00)
                    (14.00, 0.00)
                    (16.00, 0.00)
                    (18.00, 1.00)
                    (28.00, 1.20)
                    (30.00, 2.00)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D4"], DT=[1]min, AREA=[1.73](ha), DWF=[0](cms), CN/C=[88],
IA=[8.4](mm),
                    N=[3], TP=[0.60]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-B"], DT=[1]min, AREA=[24.04](ha), XIMP=[0.62],
TIMP=[0.77], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[1.4](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
```

```
                          Impervious areas: IAimp=[1.57](mm), SLPI=[1.4](%),
                          LGI=[693.397](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-----------------------------------------------------------
ROUTE RESERVOIR           NHYDout=["SWMF-B"], NHYDin=["Area-B"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [ 0.000 , 0.000 ]
                                       [ 0.025 , 0.090 ]
                                       [ 0.175 , 0.510 ]
                                       [ 0.350 , 0.710 ]
                                       [ 0.495 , 0.820 ]
                                       [ 0.648 , 0.980 ]
                                       [ 0.965 , 1.045 ]
                                       [ 1.072 , 1.140 ]
                                       [ -1 , -1 ] (max twenty pts)
                                       NHYDovf=["SWMBOVF"]
*%-----------------|-----------------------------------------------------------
ADD HYD                   NHYDsum=["D4-EX"], NHYDs to add=["DRAIN4"+"D4"+"SWMF-B"+"SWMBOVF"]
*%-----------------|-----------------------------------------------------------
*ROUTE FLOW THROUGH O'Keefe Drain 5
* JFSA: Nov. 2020, added en points to close X-Section
ROUTE CHANNEL             NHYDout=["DRAIN5"], NHYDin=["D4-EX"], RDT=[1](min),
                          CHLGTH=[413.0](m), CHSLOPE=[0.16](%), FPSLOPE=[0.16](%),
                          SECNUM=[1], NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=[0.043,12.29 -0.033,17.97
                          0.043,32.84] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=(-0.01, 2.50)
                          [0.00, 1.41]
                          [6.13, 0.97]
                          [12.29, 0.89]
                          [15.71, 0.00]
                          [17.97, 0.39]
                          [23.04, 0.35]
                          [32.83, 0.96]
                          (32.84, 2.50)
*%-----------------|-----------------------------------------------------------
CONTINUOUS NASHYD         NHYD=["D5"], DT=[1]min, AREA=[1.90](ha),
                          DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.69]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------
*EXTERNAL FLOWS SOUTHEAST OF THE SITE NORTH OF McKENNA CASEY DR.
CONTINUOUS NASHYD         NHYD=["O-13SDF"], DT=[1]min, AREA=[9.74](ha),
                          DWF=[0](cms), CN/C=[81], IA=[4.0](mm), N=[3], TP=[.43]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------
*SNOW DISPOSAL FACILITY
*PARAMETERS BASED ON ROBINSON 2006 MODEL
ROUTE RESERVOIR           NHYDout=["SDF"], NHYDin=["O-13SDF"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                          (cms) - (ha-m)
                                        [0.000,0.000]
                                        [0.150,0.600]
                                        (0.200,1.500)
                                        [ -1 , -1 ] (max twenty pts)
                                        NHYDovf=["OVFSDF"]
*%-----------------|----------------------------------------------------------------|
*ANALYSIS POINT 6 - McKenna Casey Dr.
*%-----------------|----------------------------------------------------------------|
ADD HYD                 NHYDsum=["PT6MC"], NHYDs to add=["DRAIN5"+"D5"+"SDF"]
*%-----------------|----------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["O-15"], DT=[1]min, AREA=[10.67](ha),
                        DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.30]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|----------------------------------------------------------------|
*TOTAL FLOW NORTH OF McKENNA CASEY DR.
ADD HYD                 NHYDsum=["M-C"], NHYDs to add=["PT6MC"+"O-15"]
*%-----------------|----------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-14
* JFSA: Nov. 2020, added end points to close X-section
ROUTE CHANNEL           NHYDout=["O-14Ch"], NHYDin=["M-C"], RDT=[1](min),
                        CHLGTH=[845.3](m), CHSLOPE=[0.10](%), FPSLOPE=[0.10](%),
                        SECNUM=[1], NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=[0.06,15.00 -0.033,18.04 0.06,31.85] NSEG
                        times
                        ( DISTANCE (m), ELEVATION (m))=[-0.01, 2.5
                        (0.00, 1.53]
                        (5.56, 1.47)
                        (9.21, 1.45)
                        (12.45, 1.53)
                        (13.70, 1.50)
                        (15.00, 0.69)
                        (15.34, 0.00)
                        (16.51, 0.05)
                        (17.30, 0.17)
                        (18.04, 0.74)
                        (19.29, 1.32)
                        (22.73, 1.47)
                        (31.84, 1.41)
                        (31.85, 2.50)
*%-----------------|----------------------------------------------------------------|
*%   -Change O-14 from NASHYD to STANDHYD, name it "S-1-Okeefe" and add it to S-1
subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%   -JFSA 2021-02-16, add detailed subcatchment drainage area for each subcatchment
in Corrigan sub-catchment. After adding part of  O-14 to S_1 sub-catchment so O-14
becomes 5 ha instead of 30.02 ha and TP becomes 0.133 (5*0.8/30.02) instead of 0.8
CONTINUOUS NASHYD       NHYD=["O-14"], DT=[1]min, AREA=[5](ha),
                        DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.133]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*
*%-----------------|----------------------------------------------------------------|
*ANALYSIS POINT 7 - JOCK RIVER
```

```
* 2020-12-01 To Foster Drain
* 2020-12-01  replace ("PT7JR") by ("OKEEFE")
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["OKEEFE"], NHYDs to add=["O-14Ch"+"O-14"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["OKEEFE"], DT=[1](min), AREA=[448](ha),
*                     XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                     SCS curve number CN=[77],
*                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                             LGI=[1728](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[18](hrs),    END=-1
*#****************************************************************************
*#    Okeefe Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#****************************************************************************
*ROUTE RESERVOIR      NHYDout=["P_OKE"], NHYDin=["OKEEFE"],
*                     RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [    0.0  ,   0.0]
*                                  [   14.13 ,  13.0]
*                                  [    -1   ,   -1  ]  (maximum one hundred pairs of points)
*                                  NHYDovf=["ok-OVF"],
*%-----------------|-----------------------------------------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are moved to drain before station 6215 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.120]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                     MajNHYD=["S-1-D2J"]
*                     MinNHYD=["S-1-D2N"]
*                     TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
```

```
*                        RDT=[1](min),
*                              TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [ 0.0      , 0.0 ]
*                                       [ 0.2231, 0.7445 ]
*                                       [    -1   ,   -1    ]  (max twenty pts)
*                              NHYDovf=["S-1-D2Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.281]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                    MajNHYD=["S-1-D3J"]
*                    MinNHYD=["S-1-D3N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                    RDT=[1](min),
*                              TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [ 0.0      , 0.0 ]
*                                       [ 0.0811, 0.2708 ]
*                                       [    -1   ,   -1    ]  (max twenty pts)
*                              NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_OK"], NHYDs to add=["N_OK"+"OKEEFE"+"S-1-D2"+"S-1-D3"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_OK"],    # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Okeefe Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Okeefe routed to Node at Foster Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
*#
ROUTE CHANNEL       NHYDout=["N_FO"] ,NHYDin=["SN_OK"] ,
                    RDT=[1](min),
                    CHLGTH=[1183](m),  CHSLOPE=[0.0761](%),
                                        FPSLOPE=[0.0761](%),
                    SECNUM=[1.0],         NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-33.89
                      -0.035,31.59
                      0.050,34.41] NSEG times
```

```
                        ( DISTANCE (m), ELEVATION (m))=
                        [-794.18, 91.00]
                        [-775.41, 91.50]
                        [-702.63, 91.50]
                        [-546.19, 91.50]
                        [-529.54, 91.50]
                        [-323.44, 91.00]
                        [-320.71, 91.00]
                        [-183.59, 91.00]
                        [-182.54, 90.50]
                        [-181.36, 90.00]
                        [-177.37, 90.00]
                        [-87.70, 90.00]
                        [-33.89, 90.00]
                        [-18.52, 86.88]
                        [0.00,85.20]
                        [16.20, 86.83]
                        [31.59, 90.00]
                        [33.03, 90.50]
                        [34.41, 91.00]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment FOSTER
*#     - To Foster ditch (north of the Jock)
*#     - Partially developed (medium density); remaining agricultural
*#     - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
*#     - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (513.02 HA) so the total drainage area remains the same
*#     - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["FOSTER"], DT=[1]min, AREA=[325.44](ha),
                        XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[74],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                                LGI=[1472.956](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),   END=-1
*#*****************************************************************************
*#     Foster Pond
*#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#       and a ratio of the catchment area to the West Clarke pond rating curve
*#       from the MSS for the next coordinates
*#*****************************************************************************
ROUTE RESERVOIR         NHYDout=["P_FOS"],  NHYDin=["FOSTER"],
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [    0.0 ,   0.0 ]
                                        [    10.34 ,  10]
                                        [    -1   ,   -1  ]  (max twenty pts)
                              NHYDovf=["FO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["FOSTER-OUT"], NHYDs to add=["P_FOS"+"FO-OVF"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*     -Brazeau area from P 1800-19 =[71.751], change to 63.59 ha based on GIS measurements
*      -JFSA, 2021-01-19  update "W_CLAR_BRAZ" to 73.29 ha based on GIS measurements
*      -JFSA, 2021-01-22  Brazeau ("MS_P10"+"P10-OVF")brazeau pond discharges directly to the jock river through a road side ditch on the west side of Borrisokane road (station 6016)
```

```
CONTINUOUS STANDHYD NHYD=["W_CLAR_BRAZ"], DT=[1]min, AREA=[73.29](ha),
                    XIMP=[0.6], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[699.00](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
* 2020-12-01 correct pond curve values
ROUTE RESERVOIR     NHYDout=["MS_P10"],   NHYDin=["W_CLAR_BRAZ"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                  [    0.0 ,   0.0 ]
                                  [  0.068 , 0.001 ]
                                  [  0.271 , 0.022 ]
                                  [  0.379 , 0.051 ]
                                  [  0.48 , 0.091 ]
                                  [  0.853 , 0.341 ]
                                  [  1.005 , 0.61 ]
                                  [  1.128 , 1.231 ]
                                  [  1.155 , 1.592 ]
                                  [  1.194 , 1.876 ]
                                  [  1.2 , 1.921 ]
                                  [  1.259 , 2.369 ]
                                  [  1.3 , 2.665 ]
                                  [  1.349 , 2.813 ]
                                  [    -1  ,   -1  ]  (max twenty pts)
                          NHYDovf=["P10-OVF"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain
before station 980 on Foster Drain
CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
*                    MajNHYD=["S-1-FO-D2J"]
*                    MinNHYD=["S-1-FO-D2N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
```

```
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     , 0.0 ]
*                                     [ 0.0590, 0.1970 ]
*                                     [    -1  ,   -1    ]  (max twenty pts)
*                           NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["980"], NHYDs to add=["FOSTER-OUT"+"S-1-FO-D2"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["980"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Station 980 on Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
*#
ROUTE CHANNEL       NHYDout=["980-out"] ,NHYDin=["980"] ,
                    RDT=[1](min),
                    CHLGTH=[460](m),  CHSLOPE=[0.04348](%),
                                      FPSLOPE=[0.04348](%),
                    SECNUM=[1.0],        NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,45.90
                      -0.035,53.30
                      0.050,100] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [0, 91.75 ]
                    [42.4, 92.18 ]
                    [43.5, 92.16 ]
                    [44.1, 92.1 ]
                    [44.6, 92 ]
                    [44.8, 91.86 ]
                    [45.9, 91.04 ]
                    [46.4, 90.65 ]
                    [46.8, 90.36 ]
                    [47.9, 90.32 ]
                    [48.7, 90.35 ]
                    [50.7, 90.33 ]
                    [52.2, 90.38 ]
                    [52.5, 90.59 ]
                    [53.3, 91.28 ]
                    [54, 91.83 ]
                    [54.3, 92 ]
                    [54.8, 92.08 ]
                    [55.4, 92.12 ]
                    [100, 91.84 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain
before station 520 on Foster Drain
CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                     MajNHYD=["S-1-FO-D1J"]
```

```
*                          MinNHYD=["S-1-FO-D1N"]
*                          TMISTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD                   NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR           NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                          RDT=[1](min),
*                                TABLE of ( OUTFLOW-STORAGE ) values
*                                            (cms) - (ha-m)
*                                          [ 0.0     , 0.0 ]
*                                          [ 0.0611, 0.2038 ]
*                                          [    -1  ,  -1    ]  (max twenty pts)
*                                NHYDovf=["S-1FOD1ovf"]
*%-----------------|-----------------------------------------------------------|
ADD HYD                   NHYDsum=["520"], NHYDs to add=["980-out"+"S-1-FO-D1"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                  NHYD=["520"],    # OF PCYCLES=[-1],  ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at Sation 520 on Foster Drain"]
*%-----------------|-----------------------------------------------------------|
*# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock
River)
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
*#
ROUTE CHANNEL             NHYDout=["520-out"] ,NHYDin=["520"] ,
                          RDT=[1](min),
                          CHLGTH=[860](m),   CHSLOPE=[0.5872](%),
                                               FPSLOPE=[0.5872](%),
                          SECNUM=[1.0],        NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=
                            [0.050,45.90
                            -0.035,54.3
                            0.050,100.1097] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                          [0, 91.26 ]
                          [44.9, 91.46 ]
                          [45.1, 91.37 ]
                          [45.9, 90.84 ]
                          [47, 90.32 ]
                          [47.5, 90.22 ]
                          [48, 90.17 ]
                          [50.7, 90.19 ]
                          [51.5, 90.17 ]
                          [52.2, 90.13 ]
                          [52.7, 90.12 ]
                          [53.3, 90.14 ]
                          [53.5, 90.31 ]
                          [53.9, 90.59 ]
                          [54.3, 90.87 ]
                          [54.7, 91.04 ]
                          [55.3, 91.24 ]
                          [55.5, 91.26 ]
                          [63.7, 91.37 ]
                          [100.1097, 91.43 ]
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
                          XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                          SCS curve number CN=[74],
                          Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                                  LGP=[40](m), MNP=[0.25], SCP=[0](min),
                          Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                                  LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                          InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                     DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
*                     N=[3], TP=[1.007]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
*                     MajNHYD=["S-1FO-F-DJ"]
*                     MinNHYD=["S-1FO-F-DN"]
*                     TMISTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                     RDT=[1](min),
*                            TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [ 0.0      , 0.0 ]
*                                       [ 0.1788, 0.5966 ]
*                                       [     -1   ,   -1     ]  (max twenty pts)
*                            NHYDovf=["S-1FoFDovf"]
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha), XIMP=[0.325],
TIMP=[0.65], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.75](%),
                    LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                     DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                     MajNHYD=["S-1-D8J"]
*                     MinNHYD=["S-1-D8N"]
*                     TMISTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-----------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
```

```
*                        MajNHYD=["S-1-D-MJ"]
*                        MinNHYD=["S-1-D-MN"]
*                        TMJSTO=[5974](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                 NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR         NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                        RDT=[1](min),
*                              TABLE of ( OUTFLOW-STORAGE ) values
*                                          (cms) - (ha-m)
*                                        [ 0.0      ,  0.0 ]
*                                        [ 0.0630, 0.2102 ]
*                                        [    -1   ,   -1    ]  (max twenty pts)
*                              NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS NASHYD       NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
                        DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                        N=[3], TP=[0.619]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
CONTINUOUS NASHYD       NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
                        DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                        N=[3], TP=[1.10]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["SN_FO"], NHYDs to
add=["N_FO"+"520-out"+"MS_P10"+"P10-OVF"+"W_CLAR_UNDE"+"S-1-FO-F-D"+"S-1-D8"+"S-1-A"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                NHYD=["SN_FO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Foster routed to Node at Cedarview Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
*#
ROUTE CHANNEL           NHYDout=["N_CE"] ,NHYDin=["SN_FO"] ,
                        RDT=[1](min),
                        CHLGTH=[159](m),  CHSLOPE=[0.0818](%),
                                          FPSLOPE=[0.0818](%),
                        SECNUM=[1.0],         NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.050,-15.46
                          -0.035,26.55
                          0.050,116.76] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                        [-645.23, 91.50]
                        [-391.20, 91.50]
                        [-91.00, 91.50]
```

```
                        [-85.52, 91.50]
                        [-15.46, 89.40]
                        [-9.79, 89.31]
                        [-3.22, 86.24]
                        [3.22, 85.07]
                        [10.96, 85.79]
                        [16.44, 86.49]
                        [26.55, 89.45]
                        [29.03, 90.27]
                        [35.76, 90.67]
                        [36.67, 91.00]
                        [108.08, 91.00]
                        [109.82, 90.50]
                        [112.04, 90.50]
                        [114.62, 91.00]
                        [116.76, 91.50]
*%-----------------|-------------------------------------------------------------|
*#**************************************************************************
*#    Catchment S-1
*#    - To Jock River (north and south of Jock)
*#    - Primarily agricultural fields; portion of sand quarry
*%-----------------|-------------------------------------------------------------|
*%    -2020-12-17 "S-1-Undev" and "S-1-Fost" was a part of Foster drain, they are below the foster pond. Now they are added to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -2020-12-17 Change O-14 (it was part of Okeefe drain) to "S-1-Okeefe" and add it to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -2020-12-17 Add "S-1-BCDC" as NASHYD
*%    -2020-12-17 all other S-1 subcatchment as STANDHYD with DUALHYD and ROUTE RESERVOIR
*%-----------------|-------------------------------------------------------------|
*#**************************************************************************
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS NASHYD    NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[0.619]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["S-1-B"], DT=[1]min, AREA=[55.36](ha),
                      DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                      N=[3], TP=[0.451]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas compared to the old ones.
*CONTINUOUS NASHYD    NHYD=["S-1-BCDC"], DT=[1]min, AREA=[134.9](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
```

```
*                          Baseflow simulation parameters:
*                          BaseFlowOption=[1] ,
*                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and "S-1-BCDC-2" is part of "S-1-D2" and "S-1-D3"
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-1"], DT=[1]min, AREA=[0.3](ha),
*                          DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                          N=[3], TP=[1.10]hrs,
*                          Continuous simulation parameters:
*                          IaRECper=[4](hrs),
*                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                          InterEventTime=[12](hrs)
*                          Baseflow simulation parameters:
*                          BaseFlowOption=[1] ,
*                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-2"], DT=[1]min, AREA=[1.3](ha),
*                          DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                          N=[3], TP=[1.10]hrs,
*                          Continuous simulation parameters:
*                          IaRECper=[4](hrs),
*                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                          InterEventTime=[12](hrs)
*                          Baseflow simulation parameters:
*                          BaseFlowOption=[1] ,
*                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-3"], DT=[1]min, AREA=[3.9](ha),
*                          DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                          N=[3], TP=[1.10]hrs,
*                          Continuous simulation parameters:
*                          IaRECper=[4](hrs),
*                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                          InterEventTime=[12](hrs)
*                          Baseflow simulation parameters:
*                          BaseFlowOption=[1] ,
*                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain before station 7245 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                          LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                          LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
*                          Continuous simulation parameters:
*                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                          InterEventTime=[12](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                          MajNHYD=["S-1-OkMJ"]
*                          MinNHYD=["S-1-OkMN"]
*                          TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|-----------------------------------------------------------|
```

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*ROUTE RESERVOIR      NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     ,  0.0 ]
*                                     [ 0.5370,  1.7917 ]
*                                     [    -1   ,   -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-OkSovf"]
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-Okeefe"], DT=[1]min, AREA=[44.93](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.049]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain before station 520 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                     XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                     SCS curve number CN=[74],
*                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                             LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                     MajNHYD=["S-1-FO-D1J"]
*                     MinNHYD=["S-1-FO-D1N"]
*                     TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     ,  0.0 ]
*                                     [ 0.0611,  0.2038 ]
*                                     [    -1   ,   -1    ]  (max twenty pts)
*                           NHYDovf=["S-1FOD1ovf"]
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain before station 980 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
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*                         XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                         SCS curve number CN=[74],
*                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                                   LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.10]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
*                         MajNHYD=["S-1-FO-D2J"]
*                         MinNHYD=["S-1-FO-D2N"]
*                         TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
*                                         [ 0.0     , 0.0 ]
*                                         [ 0.0590, 0.1970 ]
*                                         [    -1  ,   -1    ]  (max twenty pts)
*                               NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                         XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                         SCS curve number CN=[74],
*                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                                   LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.007]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
```

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*                           MajNHYD=["S-1FO-F-DJ"]
*                           MinNHYD=["S-1FO-F-DN"]
*                           TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD                    NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR            NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                           RDT=[1](min),
*                                 TABLE of ( OUTFLOW-STORAGE ) values
*                                             (cms) - (ha-m)
*                                           [ 0.0      , 0.0 ]
*                                           [ 0.1788, 0.5966 ]
*                                           [    -1   ,   -1    ]  (max twenty pts)
*                                 NHYDovf=["S-1FoFDovf"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D1"], DT=[1](min), AREA=[21.67](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
                   LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
                   LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
                   LGI=[380.088](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                   SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                   InterEventTime=[12](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD          NHYD=["S-1-D1"], DT=[1]min, AREA=[21.67](ha),
*                           DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                           N=[3], TP=[1.066]hrs,
*                           Continuous simulation parameters:
*                           IaRECper=[4](hrs),
*                           SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                           InterEventTime=[12](hrs)
*                           Baseflow simulation parameters:
*                           BaseFlowOption=[1] ,
*                           InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                           VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD            NHYDin=["S-1-D1"], CINLET=[2.482](cms), NINLET=[1],
*                           MajNHYD=["S-1-D1J"]
*                           MinNHYD=["S-1-D1N"]
*                           TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD                    NHYDsum=["S-1-D1S"], NHYDs to add=["S-1-D1J"+"S-1-D1N"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR            NHYDout=["S-1-D1R"] ,NHYDin=["S-1-D1S"] ,
*                           RDT=[1](min),
*                                 TABLE of ( OUTFLOW-STORAGE ) values
*                                             (cms) - (ha-m)
*                                           [ 0.0      , 0.0 ]
*                                           [ 0.2590, 0.8642 ]
*                                           [    -1   ,   -1    ]  (max twenty pts)
*                                 NHYDovf=["S-1-D1Rovf"]
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are moved to drain before station 6215 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                           LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                           LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
*                           Continuous simulation parameters:
*                           IaRECper=[4](hrs),  IaRECimp=[4](hrs),
```

```
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
*CONTINUOUS NASHYD        NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.120]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                         MajNHYD=["S-1-D2J"]
*                         MinNHYD=["S-1-D2N"]
*                         TMISTO=[9999999](cu-m)
*%-----------------|--------------------------------------------------------------|
*ADD HYD                  NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|--------------------------------------------------------------|
*ROUTE RESERVOIR          NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
*                                         [ 0.0     , 0.0 ]
*                                         [ 0.2231, 0.7445 ]
*                                         [    -1   ,   -1    ]  (max twenty pts)
*                               NHYDovf=["S-1-D2Rovf"]
*%-----------------|--------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                         LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                         LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                         LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
*CONTINUOUS NASHYD        NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.281]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                         MajNHYD=["S-1-D3J"]
*                         MinNHYD=["S-1-D3N"]
*                         TMISTO=[9999999](cu-m)
*%-----------------|--------------------------------------------------------------|
*ADD HYD                  NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|--------------------------------------------------------------|
*ROUTE RESERVOIR          NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
```

```
*                                       [  0.0     ,  0.0  ]
*                                       [  0.0811,  0.2708  ]
*                                       [    -1   ,   -1     ]   (max twenty pts)
*                             NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D4"], DT=[1](min), AREA=[3.28](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[147.874](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D4"], DT=[1]min, AREA=[3.28](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D4"], CINLET=[0.373](cms), NINLET=[1],
*                    MajNHYD=["S-1-D4J"]
*                    MinNHYD=["S-1-D4N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D4S"], NHYDs to add=["S-1-D4J"+"S-1-D4N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D4R"] ,NHYDin=["S-1-D4S"] ,
*                    RDT=[1](min),
*                             TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [  0.0     ,  0.0  ]
*                                       [  0.0392,  0.1308  ]
*                                       [    -1   ,   -1     ]   (max twenty pts)
*                             NHYDovf=["S-1-D4Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D5"], DT=[1](min), AREA=[12.84](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[292.57](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D5"], DT=[1]min, AREA=[12.84](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
```

```
*                         InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-D5"], CINLET=[1.395](cms), NINLET=[1],
*                         MajNHYD=["S-1-D5J"]
*                         MinNHYD=["S-1-D5N"]
*                         TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                  NHYDsum=["S-1-D5S"], NHYDs to add=["S-1-D5J"+"S-1-D5N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR          NHYDout=["S-1-D5R"] ,NHYDin=["S-1-D5S"] ,
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
*                                         [ 0.0      , 0.0 ]
*                                         [ 0.1535, 0.5120 ]
*                                         [    -1   ,   -1    ]  (max twenty pts)
*                               NHYDovf=["S-1-D5Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D6"], DT=[1](min), AREA=[1.75](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[108.01](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD        NHYD=["S-1-D6"], DT=[1]min, AREA=[1.75](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.10]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-D6"], CINLET=[0.218](cms), NINLET=[1],
*                         MajNHYD=["S-1-D6J"]
*                         MinNHYD=["S-1-D6N"]
*                         TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                  NHYDsum=["S-1-D6S"], NHYDs to add=["S-1-D6J"+"S-1-D6N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR          NHYDout=["S-1-D6R"] ,NHYDin=["S-1-D6S"] ,
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
*                                         [ 0.0      , 0.0 ]
*                                         [ 0.0209, 0.0698 ]
*                                         [    -1   ,   -1    ]  (max twenty pts)
*                               NHYDovf=["S-1-D6Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D7"], DT=[1](min), AREA=[2.03](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[116.33](m), MNI=[0.013], SCI=[0](min),
```

```
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D7"], DT=[1]min, AREA=[2.03](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D7"], CINLET=[2.279](cms), NINLET=[1],
*                     MajNHYD=["S-1-D7J"]
*                     MinNHYD=["S-1-D7N"]
*                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-D7S"], NHYDs to add=["S-1-D7J"+"S-1-D7N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-D7R"] ,NHYDin=["S-1-D7S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0243, 0.0810 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1](min), AREA=[5.27](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                     LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                     LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                     LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                     MajNHYD=["S-1-D8J"]
*                     MinNHYD=["S-1-D8N"]
*                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-------------------------------------------------------------|
```

```
*ADD HYD              NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                     MajNHYD=["S-1-D-MJ"]
*                     MinNHYD=["S-1-D-MN"]
*                     TMJSTO=[5974](cu-m)
*%-----------------|------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     , 0.0 ]
*                                     [ 0.0630, 0.2102 ]
*                                     [    -1  ,  -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-D8Rovf"]
*%-----------------|------------------------------------------------------------|
*%-----------------|------------------------------------------------------------|
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area (W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*#    Catchment W_CLAR
*#    - To West Clarke Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
*#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
*#******************************************************************************
CONTINUOUS STANDHYD NHYD=["W_CLAR_MJ"], DT=[1]min, AREA=[1.772](ha),
                    XIMP=[0.46], TIMP=[0.59], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[109](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["W_CLAR_MJ"], CINLET=[0.213](cms), NINLET=[1],
*                     MajNHYD=["W_CLAR_MJj"]
*                     MinNHYD=["W_CLAR_MJn"]
*                     TMJSTO=[0.1](cu-m)
*%-----------------|------------------------------------------------------------|
*# 5-Year + 12% Capture
ROUTE RESERVOIR     NHYDout=["W_CLAR_MJn"] ,NHYDin=["W_CLAR_MJ"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0     , 0.0 ]
                                    [ 0.213 , 0.0001 ]
                                    [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["W_CLAR_MJj"] ,
*%-----------------|------------------------------------------------------------|
*     -Clarke_All area from  P 598(04)-11 = 120.207 ha, change to 127.298 ha based on GIS measurements,
*     -JFSA, 2021-01-19  update W_CLAR_ALL to (121.17-1.772=119.398) ha based on GIS measurements W_CLAR is 121.17 ha and W_CLAR_MJ is 1.772 ha
CONTINUOUS STANDHYD NHYD=["W_CLAR_ALL"], DT=[1]min, AREA=[119.398](ha),
                    XIMP=[0.60], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[892.18](m), MNI=[0.013], SCI=[0](min),
```

```
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["W_CLAR"], NHYDs to add=["W_CLAR_ALL"+"W_CLAR_MIj"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["W_CLAR"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["Total Flows to West Clarke"]
*#*****************************************************************************
*#    West Clarke Pond 2
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
*#*****************************************************************************
ROUTE RESERVOIR          NHYDout=["MS_P2"],  NHYDin=["W_CLAR"],
                         RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [   0.0 ,   0.0 ]
                                        [ 0.128 , 0.161 ]
                                        [ 0.138 , 0.409 ]
                                        [ 0.148 , 0.68 ]
                                        [ 0.227 , 0.931 ]
                                        [ 0.354 , 1.223 ]
                                        [ 0.505 , 1.52 ]
                                        [ 0.666 , 1.821 ]
                                        [ 0.831 , 2.123 ]
                                        [ 0.995 , 2.434 ]
                                        [ 1.069 , 2.583 ]
                                        [ 1.51 , 2.647 ]
                                        [ 4.904 , 2.861 ]
                                        [ 13.048 , 3.188 ]
                                        [ 23.745 , 3.523 ]
                                        [ 36.474 , 3.871 ]
                                        [ 45.938 , 4.127 ]
                                        [ 61.652 , 4.539 ]
                                        [   -1  ,   -1  ]  (max twenty pts)
                               NHYDovf=["P2-OVF"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
*CONTINUOUS NASHYD         NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
*                          DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                          N=[3], TP=[1.10]hrs,
*                          Continuous simulation parameters:
*                          IaRECper=[4](hrs),
*                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                          InterEventTime=[12](hrs)
*                          Baseflow simulation parameters:
*                          BaseFlowOption=[1] ,
*                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                          VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["SN_CE"], NHYDs to
add=["N_CE"+"S-1-D4"+"S-1-D5"+"MS_P2"+"P2-OVF"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["SN_CE"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["Total Flows before Station 5737 on Jock River"]
*%-----------------|-------------------------------------------------------------|
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
*# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the
HEC-RAS model
T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\HEC-RAS\JockLidar2005
*# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
```

```
ROUTE CHANNEL        NHYDout=["5737"],NHYDin=["SN_CE"],
                     RDT=[1](min),
                     CHLGTH=[270](m),   CHSLOPE=[0.0175](%),
                                        FPSLOPE=[0.0175](%),
                     SECNUM=[1.0],      NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.050,-24.04
                       -0.035,23.92
                       0.050,1130.8] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                     [-1060.52, 94 ]
                     [-268.6, 91.5 ]
                     [-259.43, 91.5 ]
                     [-179.48, 91.5 ]
                     [-67.9, 91.5 ]
                     [-59.21, 91.5 ]
                     [-33.19, 91 ]
                     [-26.08, 90.5 ]
                     [-24.04, 90 ]
                     [-13.14, 86.77 ]
                     [0, 85 ]
                     [14.68, 86.74 ]
                     [23.92, 90 ]
                     [25.78, 90.5 ]
                     [31.91, 91 ]
                     [91.95, 91.5 ]
                     [772.15, 92 ]
                     [961.49, 92.5 ]
                     [1044.69, 93 ]
                     [1130.8, 95 ]
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["5002"], NHYDs to add=["5737"+"S-1-D1"+"S-1-D6"+"S-1-D7"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["5002"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows before Station 5002 on Jock River"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
*# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255
%so the model will be more stable and give reasonable results. It is justifiable as
ROUTE CHANNELs aren't well suited to really flat slopes.
*# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one
with 825 m length so the model will be more stable
*# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is
because of adding station 5737 between station 6016 and station 5002. Then the length
from station 5737 to station 5002 is 736 m. Change the slope from 0.0255 % to 0.09511 %
*
ROUTE CHANNEL        NHYDout=["N_WCa"],NHYDin=["5002"],
                     RDT=[1](min),
                     CHLGTH=[245.33333](m),   CHSLOPE=[0.09511](%),
                                        FPSLOPE=[0.09511](%),
                     SECNUM=[1.0],      NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.050,-37.5
                       -0.035,37.50
                       0.050,157.05] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                     [-601.81, 91.5]
                     [-37.50, 90.00]
                     [-19.61, 87.04]
                     [0.00, 85.70]
                     [14.87, 86.93]
                     [37.50, 90.00]
                     [38.54, 90.50]
                     [42.23, 91]
                     [157.05,91.50]
```

```
*                         [161.44, 91.50]
*                         [236.48, 93.00]
*                         [385.47, 92.50]
*                         [390.78, 92.50]
*%-----------------|----------------------------------------------------------|
ROUTE CHANNEL            NHYDout=["N_WCb"] ,NHYDin=["N_WCa"] ,
                         RDT=[1](min),
                         CHLGTH=[245.33333](m),   CHSLOPE=[0.09511](%),
                                                  FPSLOPE=[0.09511](%),
                         SECNUM=[1.0],            NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=
                           [0.050,-37.5
                           -0.035,37.50
                           0.050,157.05] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=
                         [-601.81, 91.5]
                         [-37.50, 90.00]
                         [-19.61, 87.04]
                         [0.00, 85.70]
                         [14.87, 86.93]
                         [37.50, 90.00]
                         [38.54, 90.50]
                         [42.23, 91]
                         [157.05,91.50]
*%-----------------|----------------------------------------------------------|
ROUTE CHANNEL            NHYDout=["N_WC"] ,NHYDin=["N_WCb"] ,
                         RDT=[1](min),
                         CHLGTH=[245.33333](m),   CHSLOPE=[0.09511](%),
                                                  FPSLOPE=[0.09511](%),
                         SECNUM=[1.0],            NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=
                           [0.050,-37.5
                           -0.035,37.50
                           0.050,157.05] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=
                         [-601.81, 91.5]
                         [-37.50, 90.00]
                         [-19.61, 87.04]
                         [0.00, 85.70]
                         [14.87, 86.93]
                         [37.50, 90.00]
                         [38.54, 90.50]
                         [42.23, 91]
                         [157.05,91.50]
*#****************************************************************************
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area (W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*ADD HYD                  NHYDsum=["SN_WC"], NHYDs to add=["MS_P2"+"P2-OVF"+"N_WC"+"W_CLAR_UNDE"]
*%-----------------|----------------------------------------------------------|
*SAVE HYD                 NHYD=["SN_WC"],    # OF PCYCLES=[-1],   ICASEsh=[1]
*                        HYD_COMMENT=["Total Flows at West Clarke Pond Outlet"]
*%-----------------|----------------------------------------------------------|
*# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
*#
ROUTE CHANNEL            NHYDout=["N_KB"] ,NHYDin=["N_WC"] ,
                         RDT=[1](min),
                         CHLGTH=[1020](m),   CHSLOPE=[0.0498](%),
                                                  FPSLOPE=[0.0498](%),
                         SECNUM=[1.0],            NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=
                           [0.050,-23.63
                           -0.035,23.63
                           0.050,728.3] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=
```

```
                    [-1082.01,94]
                    [-1028.17,92.5]
                    [-992.3,93.5]
                    [-279.34,90]
                    [-23.63,90]
                    [-13.45,87.13]
                    [-0.07,86.24]
                    [10.54,87.15]
                    [23.63,90]
                    [24.86,90.5]
                    [26.72,91]
                    [45.07,91.5]
                    [128.17,91.5]
                    [270.7,92.5]
                    [728.3,95]
*%-----------------|-----------------------------------------------------------|
*#*****************************************************************************
*#     Catchment KEN_BU
*#     - To Kennedy-Burnett SWM Facility
*#     - Outlets to Fraser-Clarke drain (north of the Jock)
*#     - Medium density residential subdivision
*      - Add Kennedy Burnett model (Convert PCSWMM from NOVATECH June, 2020 to SWMHYMO)
*#*****************************************************************************
*CONTINUOUS STANDHYD NHYD=["KEN_BU"], DT=[1]min, AREA=[281](ha),
*                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[71],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                            LGI=[1369](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*#*****************************************************************************
*#    Existing Kennedy-Burnett SWM Facility
*#     - Rating curve obtained from URTKBP
*#     - Tributary Drainage Area to Pond = 160 ha
*#*****************************************************************************
*ROUTE RESERVOIR     NHYDout=["KEN_P"],  NHYDin=["KEN_BU"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                      (cms) - (ha-m)
*                                    [    0.0 ,   0.0 ]
*                                    [    0.13 ,  0.26]
*                                    [    0.43 ,  0.56]
*                                    [    0.67 ,  0.90]
*                                    [    0.86 ,  1.32]
*                                    [    1.01 ,  1.79]
*                                    [    1.15 ,  2.33]
*                                    [    -1   ,   -1  ]  (max twenty pts)
*                          NHYDovf=["KEN-OV"]
*%-----------------|-----------------------------------------------------------|
*      -JFSA, 2021-01-19  update all KEN_BU areas based on GIS measurements
CONTINUOUS STANDHYD NHYD=["KB-01A"], DT=[1]min, AREA=[40.82](ha), XIMP=[0.097],
TIMP=[0.4], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                    LGI=[521.664](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
```

```
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["KB-01A"], CINLET=[3.6](cms), NINLET=[1],
                         MajNHYD=["KB-01A-MJ"]
                         MinNHYD=["KB-01A-MN"]
                         TMJSTO=[4995](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                  NHYDsum=["KB-01A-S"], NHYDs to add=["KB-01A-MJ"+"KB-01A-MN"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01B"], DT=[1]min, AREA=[31.1](ha), XIMP=[0.1875],
TIMP=[0.375], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[0.42](%), LGP=[40](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[0.785](mm), SLPI=[0.42](%),
                         LGI=[455.339](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["KB-01B"], CINLET=[1.585](cms), NINLET=[1],
                         MajNHYD=["KB-01B-MJ"]
                         MinNHYD=["KB-01B-MN"]
                         TMJSTO=[6075](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                  NHYDsum=["KB-01B-S"], NHYDs to add=["KB-01B-MJ"+"KB-01B-MN"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01C"], DT=[1]min, AREA=[13.78](ha), XIMP=[0.2045],
TIMP=[0.409], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                         LGI=[303.095](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["KB-01C"], CINLET=[1.35](cms), NINLET=[1],
                         MajNHYD=["KB-01C-MJ"]
                         MinNHYD=["KB-01C-MN"]
                         TMJSTO=[1880](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                  NHYDsum=["KB-01C-S"], NHYDs to add=["KB-01C-MJ"+"KB-01C-MN"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-03"], DT=[1]min, AREA=[84.78](ha), XIMP=[0.197],
TIMP=[0.394], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[0.785](mm), SLPI=[0.63](%),
                         LGI=[751.798](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["KB-03"], CINLET=[5.27](cms), NINLET=[1],
                         MajNHYD=["KB-03-MJ"]
                         MinNHYD=["KB-03-MN"]
                         TMJSTO=[15500](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                  NHYDsum=["KB-03-S"], NHYDs to add=["KB-03-MJ"+"KB-03-MN"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-04"], DT=[1]min, AREA=[6.95](ha), XIMP=[0.85],
```

```
     TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[0.942](mm), SLPI=[0.5](%),
                            LGI=[215.252](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
     *%-----------------|-----------------------------------------------------------------|
     COMPUTE DUALHYD        NHYDin=["KB-04"], CINLET=[0.503](cms), NINLET=[1],
                            MajNHYD=["KB-04-MJ"]
                            MinNHYD=["KB-04-MN"]
                            TMJSTO=[1972](cu-m)
     *%-----------------|-----------------------------------------------------------------|
     ADD HYD                NHYDsum=["KB-04-S"], NHYDs to add=["KB-04-MJ"+"KB-04-MN"]
     *%-----------------|-----------------------------------------------------------------|
     CONTINUOUS STANDHYD NHYD=["KB-05"], DT=[1]min, AREA=[5.19](ha), XIMP=[0.93],
     TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[186.011](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
     *%-----------------|-----------------------------------------------------------------|
     *%-----------------|-----------------------------------------------------------------|
     CONTINUOUS STANDHYD NHYD=["KB-06"], DT=[1]min, AREA=[12.93](ha), XIMP=[0.873],
     TIMP=[0.873], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[0.942](mm), SLPI=[4.75](%),
                            LGI=[293.598](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
     *%-----------------|-----------------------------------------------------------------|
     COMPUTE DUALHYD        NHYDin=["KB-06"], CINLET=[2.262](cms), NINLET=[1],
                            MajNHYD=["KB-06-MJ"]
                            MinNHYD=["KB-06-MN"]
                            TMJSTO=[1950](cu-m)
     *%-----------------|-----------------------------------------------------------------|
     ADD HYD                NHYDsum=["KB-06-S"], NHYDs to add=["KB-06-MJ"+"KB-06-MN"]
     *%-----------------|-----------------------------------------------------------------|
     CONTINUOUS STANDHYD NHYD=["KB-11"], DT=[1]min, AREA=[4.03](ha), XIMP=[0.675],
     TIMP=[0.675], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                            LGI=[163.911](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
     *%-----------------|-----------------------------------------------------------------|
     COMPUTE DUALHYD        NHYDin=["KB-11"], CINLET=[0.5773](cms), NINLET=[1],
                            MajNHYD=["KB-11-MJ"]
                            MinNHYD=["KB-11-MN"]
                            TMJSTO=[597](cu-m)
```

```
*%-----------------|-------------------------------------------------------------|
ADD HYD                NHYDsum=["KB-11-S"], NHYDs to add=["KB-11-MI"+"KB-11-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S1"], DT=[1]min, AREA=[4.99](ha), XIMP=[0.93], TIMP=[0.93],
DWF=[0](cms), LOSS=[1]:
                       Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                       F=[0.00](mm),
                       Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                       MNP=[0.250], SCP=[0](min),
                       Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                       LGI=[182.392](m), MNI=[0.013], SCI=[0](min),
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                       END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-15"], DT=[1]min, AREA=[2.15](ha), XIMP=[0.79],
TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
                       Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                       F=[0.00](mm),
                       Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                       MNP=[0.250], SCP=[0](min),
                       Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                       LGI=[119.722](m), MNI=[0.013], SCI=[0](min),
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                       END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD                NHYDsum=["KB-P1"], NHYDs to
add=["KB-01A-S"+"KB-01B-S"+"KB-01C-S"+"KB-03-S"+"KB-04-S"+"KB-05"+"KB-06-S"+"KB-11-S"+"KB
-15"+"S1"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR        NHYDout=["KB-P1R"],  NHYDin=["KB-P1"],
                       RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,   0.0 ]
                                   [0.076,0.003]
                                   [0.088,0.006]
                                   [0.136,0.011]
                                   [0.301,0.017]
                                   [0.454,0.027]
                                   [0.631,0.041]
                                   [1.173,0.068]
                                   [1.91,0.111]
                                   [4.847,0.231]
                                   [9.813,0.436]
                                   [12.134,0.617]
                                   [12.438,0.732]
                                   [12.424,0.811]
                                   [12.425,0.894]
                                   [   -1  ,   -1  ]  (max twenty pts)
                            NHYDovf=["KB-P1ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                NHYDsum=["KB-Pond1"], NHYDs to add=["KB-P1R"+"KB-P1ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD               NHYD=["KB-Pond1"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                       HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-07"], DT=[1]min, AREA=[10.86](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                       Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                       F=[0.00](mm),
                       Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                       MNP=[0.250], SCP=[0](min),
                       Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
```

```
                              LGI=[269.072](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["KB-07"], CINLET=[2.094](cms), NINLET=[1],
                              MajNHYD=["KB-07-MJ"]
                              MinNHYD=["KB-07-MN"]
                              TMJSTO=[1378](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                       NHYDsum=["KB-07-S"], NHYDs to add=["KB-07-MJ"+"KB-07-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-08"], DT=[1]min, AREA=[6.61](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                              LGI=[209.921](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["KB-08"], CINLET=[1.058](cms), NINLET=[1],
                              MajNHYD=["KB-08-MJ"]
                              MinNHYD=["KB-08-MN"]
                              TMJSTO=[787](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                       NHYDsum=["KB-08-S"], NHYDs to add=["KB-08-MJ"+"KB-08-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-09"], DT=[1]min, AREA=[2.6](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                              LGI=[131.656](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_1"], DT=[1]min, AREA=[2.37](ha),  XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                              LGI=[125.698](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_2"], DT=[1]min, AREA=[1.14](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%), LGI=[87.178](m),
                              MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
```

```
                        END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-12"], DT=[1]min, AREA=[4.86](ha), XIMP=[0.79],
TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
                        Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
                        Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                        MNP=[0.250], SCP=[0](min),
                        Impervious areas: IAimp=[1.099](mm), SLPI=[2.0](%),
                        LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD         NHYDin=["KB-12"], CINLET=[0.8665](cms), NINLET=[1],
                        MajNHYD=["KB-12-MJ"]
                        MinNHYD=["KB-12-MN"]
                        TMJSTO=[632](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["KB-12-S"], NHYDs to add=["KB-12-MJ"+"KB-12-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-13"], DT=[1]min, AREA=[10.19](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                        Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
                        Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                        MNP=[0.250], SCP=[0](min),
                        Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                        LGI=[260.640](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD         NHYDin=["KB-13"], CINLET=[1.722](cms), NINLET=[1],
                        MajNHYD=["KB-13-MJ"]
                        MinNHYD=["KB-13-MN"]
                        TMJSTO=[1077](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["KB-13-S"], NHYDs to add=["KB-13-MJ"+"KB-13-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-14"], DT=[1]min, AREA=[5.47](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                        Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
                        Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                        MNP=[0.250], SCP=[0](min),
                        Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                        LGI=[190.962](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD         NHYDin=["KB-14"], CINLET=[0.8734](cms), NINLET=[1],
                        MajNHYD=["KB-14-MJ"]
                        MinNHYD=["KB-14-MN"]
                        TMJSTO=[631](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["KB-14-S"], NHYDs to add=["KB-14-MJ"+"KB-14-MN"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-16_2"], DT=[1]min, AREA=[3.42](ha), XIMP=[0.71],
TIMP=[0.71], DWF=[0](cms), LOSS=[1]:
                        Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
                        Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
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                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                          LGI=[150.997](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|--------------------------------------------------------------|
ADD HYD                   NHYDsum=["KB-P2"], NHYDs to
add=["KB-Pond1"+"KB-07-S"+"KB-08-S"+"KB-09"+"KB-10_1"+"KB-10_2"+"KB-12-S"+"KB-13-S"+"KB-1
4-S"+"KB-16_2"]
*%-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR           NHYDout=["KB-P2R"], NHYDin=["KB-P2"],
                          RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                            (cms) - (ha-m)
                                          [    0.0 ,   0.0 ]
                                          [0.053,0.005]
                                          [0.132,0.009]
                                          [0.269,0.014]
                                          [0.455,0.023]
                                          [0.699,0.037]
                                          [0.947,0.056]
                                          [1.853,0.09]
                                          [2.712,0.146]
                                          [6.626,0.287]
                                          [11.228,0.515]
                                          [14.885,0.738]
                                          [16.473,0.893]
                                          [17.311,0.998]
                                          [17.633,1.063]
                                          [17.634,1.112]
                                          [    -1  ,   -1  ]  (max twenty pts)
                                NHYDovf=["KB-P2ovf"]
*%-----------------|--------------------------------------------------------------|
ADD HYD                   NHYDsum=["KB-Pond2"], NHYDs to add=["KB-P2R"+"KB-P2ovf"]
*%-----------------|--------------------------------------------------------------|
SAVE HYD                  NHYD=["KB-Pond2"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at KB second pond"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-16_1"], DT=[1]min, AREA=[2.8](ha), XIMP=[0.75],
TIMP=[0.75], DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                          LGI=[136.626](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|--------------------------------------------------------------|
ADD HYD                   NHYDsum=["KB-P3"], NHYDs to add=["KB-Pond2"+"KB-16_1"]
*%-----------------|--------------------------------------------------------------|
*%-----------------|--------------------------------------------------------------|
* One inflow node from pond 3 is added to the model (ROUTE RESERVOIR)
* Another inflow node from right side of pond 3 is not added to the model
ROUTE RESERVOIR           NHYDout=["KB-P3R"], NHYDin=["KB-P3"],
                          RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                            (cms) - (ha-m)
                                          [    0.0 ,   0.0 ]
                                          [0.051,0.002]
                                          [0.048,0.003]
                                          [0.057,0.029]
                                          [0.089,0.045]
                                          [0.133,0.069]
```

```
                                              [0.199,0.106]
                                              [0.321,0.172]
                                              [1.029,0.306]
                                              [4.036,0.527]
                                              [8.332,0.761]
                                              [11.727,0.941]
                                              [14.125,1.067]
                                              [15.675,1.149]
                                              [16.555,1.196]
                                              [16.911,1.214]
                                              [   -1  ,   -1  ]    (max twenty pts)
                                  NHYDovf=["KB-P3ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["KB-Pond3"], NHYDs to add=["KB-P3R"+"KB-P3ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["KB-Pond3"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["Total Flows at KB third pond"]
*%-----------------|-------------------------------------------------------------|
*#****************************************************************************
*#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM
Modeling Approach, NOVATECH Report June, 2020)
*#    - TO FRASER-CLARKE DRAIN
*#****************************************************************************
CONTINUOUS STANDHYD NHYD=["FC-01"], DT=[1]min, AREA=[8.03](ha), XIMP=[0.47],
TIMP=[0.47], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                         LGI=[231.373](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["FC-01"], CINLET=[0.756](cms), NINLET=[1],
                         MajNHYD=["FC-01-MJ"]
                         MinNHYD=["FC-01-MN"]
                         TMJSTO=[714](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["FC-01-S"], NHYDs to add=["FC-01-MJ"+"FC-01-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-02"], DT=[1]min, AREA=[16.05](ha), XIMP=[0.93],
TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                         LGI=[327.109](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["FC-02"], CINLET=[1.159](cms), NINLET=[1],
                         MajNHYD=["FC-02-MJ"]
                         MinNHYD=["FC-02-MN"]
                         TMJSTO=[2385](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["FC-02-S"], NHYDs to add=["FC-02-MJ"+"FC-02-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-03"], DT=[1]min, AREA=[7.37](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
```

```
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                              LGI=[221.660](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|--------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["FC-03"], CINLET=[0.358](cms), NINLET=[1],
                              MajNHYD=["FC-03-MJ"]
                              MinNHYD=["FC-03-MN"]
                              TMJSTO=[1131](cu-m)
*%-----------------|--------------------------------------------------------------|
ADD HYD                       NHYDsum=["FC-03-S"], NHYDs to add=["FC-03-MJ"+"FC-03-MN"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-04"], DT=[1]min, AREA=[12.87](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                              LGI=[292.916](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|--------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["FC-04"], CINLET=[0.741](cms), NINLET=[1],
                              MajNHYD=["FC-04-MJ"]
                              MinNHYD=["FC-04-MN"]
                              TMJSTO=[1794](cu-m)
*%-----------------|--------------------------------------------------------------|
ADD HYD                       NHYDsum=["FC-04-S"], NHYDs to add=["FC-04-MJ"+"FC-04-MN"]
*%-----------------|--------------------------------------------------------------|
*#*************************************************************************
*#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling
Approach, NOVATECH Report June, 2020)
*#    - TO JOCK RIVER
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["JR-01"], DT=[1]min, AREA=[8.24](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                              LGI=[234.379](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|--------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["JR-01"], CINLET=[0.563](cms), NINLET=[1],
                              MajNHYD=["JR-01-MJ"]
                              MinNHYD=["JR-01-MN"]
                              TMJSTO=[1040](cu-m)
*%-----------------|--------------------------------------------------------------|
ADD HYD                       NHYDsum=["JR-01-S"], NHYDs to add=["JR-01-MJ"+"JR-01-MN"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["JR-02"], DT=[1]min, AREA=[1.59](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                              LGI=[102.956](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
```

```
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["JR-02"], CINLET=[0.153](cms), NINLET=[1],
                            MajNHYD=["JR-02-MJ"]
                            MinNHYD=["JR-02-MN"]
                            TMJSTO=[153](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["JR-02-S"], NHYDs to add=["JR-02-MJ"+"JR-02-MN"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment FRASER
*#     - To Fraser-Clarke drain (north of the Jock)
*#     - Developed land with assumed 43% imp.
*#     - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
*#     - 2020-12-17 All Fraser is undeveloped (Nashyd)
*#*****************************************************************************
CONTINUOUS NASHYD           NHYD=["FRASER-DRN"], DT=[1]min, AREA=[13.65](ha),
                            DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                            N=[3], TP=[0.4258]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*
CONTINUOUS STANDHYD NHYD=["FRASER-D"], DT=[1]min, AREA=[21.61](ha),
                            XIMP=[0.585], TIMP=[0.585], DWF=[0](cms), LOSS=[2],
                            SCS curve number CN=[80],
                            Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                    LGP=[40](m), MNP=[0.25], SCP=[0](min),
                            Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                    LGI=[379.561](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["FRASER-D"], CINLET=[2.281](cms), NINLET=[1],
                            MajNHYD=["FRASER-J"]
                            MinNHYD=["FRASER-N"]
                            TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["FRASER-S"], NHYDs to add=["FRASER-J"+"FRASER-N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR             NHYDout=["MS_P20"],   NHYDin=["FRASER"],
*                            RDT=[1](min),
*                                  TABLE of ( OUTFLOW-STORAGE ) values
*                                              (cms) - (ha-m)
*                                            [    0.0 ,   0.0 ]
*                                            [    0.04 ,  0.36]
*                                            [    -1   ,   -1  ]  (max twenty pts)
*                                  NHYDovf=["P20-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["4241"], NHYDs to
add=["KB-Pond3"+"S-1-B"+"FRASER-DRN"+"FRASER-S"+"N_KB"+"FC-01-S"+"FC-02-S"+"FC-03-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                    NHYD=["4241"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                            HYD_COMMENT=["Total Flows at Ken-Burnett Outlet"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Ken-Burnett to station 3633
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
*#
```

```
ROUTE CHANNEL          NHYDout=["4241-out"], NHYDin=["4241"],  RDT=[1](min),
                       CHLGTH=[294](m),  CHSLOPE=[0.1088](%), FPSLOPE=[0.1088](%),
                       SECNUM=[1.0],        NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=[0.05, -20.12
                                                -0.035, 45.26
                                                 0.05, 403.84] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=[]
                       [-909.72, 95 ]
                       [-907.09, 94.5 ]
                       [-904.65, 94 ]
                       [-902.26, 93.5 ]
                       [-44.51, 91.5 ]
                       [-25.1, 91.5 ]
                       [-20.98, 91 ]
                       [-20.61, 90.5 ]
                       [-20.12, 90 ]
                       [-6.13, 87.26 ]
                       [17.51, 86.56 ]
                       [31.37, 87.2 ]
                       [45.26, 90 ]
                       [50.41, 90.5 ]
                       [63.06, 91 ]
                       [134.5, 91.5 ]
                       [190.63, 92 ]
                       [251.98, 92.5 ]
                       [321.32, 93.5 ]
                       [403.84, 95 ]
*%-----------------|-------------------------------------------------------------|
ADD HYD                NHYDsum=["SN_KB"], NHYDs to
add=["4241-out"+"FC-04-S"+"JR-01-S"+"JR-02-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD               NHYD=["SN_KB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                       HYD_COMMENT=["Total Flows before Station 3633]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Station 3633 to Node Todd
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
*# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and
change the slope from 0.0498% to 0.24671%. That is because of adding station 4241
between station 4534 and  station 3633
*#
ROUTE CHANNEL          NHYDout=["N_TO"], NHYDin=["SN_KB"],  RDT=[1](min),
                       CHLGTH=[608](m),  CHSLOPE=[0.24671](%), FPSLOPE=[0.24671](%),
                       SECNUM=[1.0],        NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=[0.05, -23.74
                                                -0.035, 23.74
                                                 0.05, 26.50] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=[]
                       -29.24, 91.0
                       -27.41, 90.5
                       -25.64, 90
                       -23.74, 89.5
                       -22, 89.26
                       -20, 88.51
                       -19, 88.32
                       -15, 88.1
                       -10, 88.11
                       -5, 88.17
                       0, 88.27
                       5, 88.19
                       10, 88.06
                       15, 88.48
                       16, 88.7
                       23.74, 89.5
                       24.68, 90
                       25.57, 90.5
                       26.50, 91.0
```

```
*                                              [-29.24, 91]
*                                              [-27.41, 90.5]
*                                              [-25.64, 90]
*                                              [-23.74, 89.5]
*                                              [-22, 89. 26]
*                                              [-20, 88.51]
*                                              [-19, 88.32]
*                                              [-15, 88.1]
*                                              [-10, 88.11]
*                                              [-5, 88.17]
*                                              [0, 88.27]
*                                              [5, 88.19]
*                                              [10, 88.06]
*                                              [15, 88.48]
*                                              [16, 88.7]
*                                              [23.74, 89.5]
*                                              [24.68, 90]
*                                              [25.57, 90.5]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment Greenbank
*#     - To Greenbank Drain (south of the Jock)
*#     - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
*#     - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["Greenbank"], DT=[1]min, AREA=[36.6](ha),
                    XIMP=[0.639], TIMP=[0.682], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[493.96](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["GreenB_MN"] ,NHYDin=["Greenbank"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                 [     0.0 , 0.0      ]
                                 [  0.033 ,  0.084 ]
                                 [  0.039 ,  0.201 ]
                                 [  0.113 ,  0.292 ]
                                 [  0.237 ,  0.386 ]
                                 [  0.382 ,  0.484 ]
                                 [  0.539 ,  0.585 ]
                                 [  0.7 ,  0.692 ]
                                 [  0.86 ,  0.804 ]
                                 [  4.684 ,  0.922 ]
                                 [  11.539 ,  1.052 ]
                                 [  20.867 ,  1.168 ]
                                 [  103.616 ,  1.974 ]
                                 [     -1   ,   -1     ]  (max twenty pts)
                          NHYDovf=["GreenB_MJ"] ,
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["GreenB"], NHYDs to add=["N_TO"+"GreenB_MJ"+"GreenB_MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["GreenB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Greenbank Drain"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment TODD
*#     - To Todd Drain (south of the Jock)
```

```
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 increase imp. based on P598(04)-11
*#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
*#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
*#*****************************************************************************
*#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
*CONTINUOUS STANDHYD NHYD=["TODD_MN1"], DT=[1]min, AREA=[1.772](ha),
*                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[77],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[108.689](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEvent Time=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN2"], DT=[1]min, AREA=[2.1](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[118.322](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEvent Time=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN3"], DT=[1]min, AREA=[0.117](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[27.928](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEvent Time=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MJ"], DT=[1]min, AREA=[30.230](ha),
                    XIMP=[0.52], TIMP=[0.64], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[448.925](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEvent Time=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA, 2021-01-19  update "TODD_ALL" area from 108.741 ha to 112.908 ha based on GIS measurements (148.41-30.23-0.117-2.1-3.055=112.908 ha)
CONTINUOUS STANDHYD NHYD=["TODD_ALL"], DT=[1]min, AREA=[112.908](ha),
                    XIMP=[0.52], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[867.594](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
```

```
                                IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                                SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                                InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_P"], DT=[1]min, AREA=[3.055](ha),
                                XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                                SCS curve number CN=[77],
                                Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                                Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                        LGI=[142.712](m), MNI=[0.013], SCI=[0](min),
                                Continuous simulation parameters:
                                IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                                SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                                InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1" and its parameters remain the same.
*CONTINUOUS STANDHYD NHYD=["TODD_DEVL"], DT=[1]min, AREA=[15.87](ha),
*                                XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
*                                SCS curve number CN=[77],
*                                Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                                Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                                        LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
*                                Continuous simulation parameters:
*                                IaRECper=[4](hrs),   IaRECimp=[4](hrs),
*                                SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                                InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now is called "corr2" and its parameters remain the same.
*CONTINUOUS NASHYD   NHYD=["TODD_UnD"], DT=[1]min, AREA=[12.47](ha),
*                                DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                                N=[3], TP=[1.10]hrs,
*                                Continuous simulation parameters:
*                                IaRECper=[4](hrs),
*                                SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                                InterEventTime=[12](hrs)
*                                Baseflow simulation parameters:
*                                BaseFlowOption=[1] ,
*                                InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                                VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD     NHYDin=["TODD_MI"], CINLET=[3.314](cms), NINLET=[1],
*                                MajNHYD=["TODD_MIj"]
*                                MinNHYD=["TODD_MIn"]
*                                TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MIn"] ,NHYDin=["TODD_MI"] ,
                                RDT=[1](min),
                                      TABLE of ( OUTFLOW-STORAGE ) values
                                                  (cms) - (ha-m)
                                                [    0.0 , 0.0     ]
                                                [  3.314  , 0.0001 ]
                                                [    -1  ,   -1    ]  (max twenty pts)
                                      NHYDovf=["TODD_MIj"] ,
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD     NHYDin=["TODD_MN1"], CINLET=[0.227](cms), NINLET=[1],
*                                MajNHYD=["TODD_MN1j"]
*                                MinNHYD=["TODD_MN1n"]
*                                TMJSTO=[0.1](cu-m)
*ROUTE RESERVOIR     NHYDout=["TODD_MN1n"] ,NHYDin=["TODD_MN1"] ,
```

```
*                         RDT=[1](min),
*                                TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
*                                        [     0.0 ,  0.0    ]
*                                        [  0.227  ,  0.0001 ]
*                                        [     -1  ,   -1    ]  (max twenty pts)
*                                NHYDovf=["TODD_MN1j"] ,
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["TODD_MN2"], CINLET=[0.268](cms), NINLET=[1],
*                         MajNHYD=["TODD_MN2j"]
*                         MinNHYD=["TODD_MN2n"]
*                         TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR          NHYDout=["TODD_MN2n"] ,NHYDin=["TODD_MN2"] ,
                         RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                        [     0.0 ,  0.0    ]
                                        [  0.268  ,  0.0001 ]
                                        [     -1  ,   -1    ]  (max twenty pts)
                                NHYDovf=["TODD_MN2j"] ,
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["TODD_MN3"], CINLET=[0.016](cms), NINLET=[1],
*                         MajNHYD=["TODD_MN3j"]
*                         MinNHYD=["TODD_MN3n"]
*                         TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR          NHYDout=["TODD_MN3n"] ,NHYDin=["TODD_MN3"] ,
                         RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                        [     0.0 ,  0.0    ]
                                        [  0.016  ,  0.0001 ]
                                        [     -1  ,   -1    ]  (max twenty pts)
                                NHYDovf=["TODD_MN3j"] ,
*%-----------------|-----------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the major system from A2 can be added to Todd
CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
                         XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[75],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                 LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                 LGI=[566](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
                         MajNHYD=["A2-MJ"]
                         MinNHYD=["A2-MN"]
                         TMJSTO=[924](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                  NHYDsum=["TODD"], NHYDs to add=["TODD_MN2n"+"TODD_MN3n"+"TODD_MJj"+"TODD_P"+"TODD_ALL"+"W_CLAR_MJn"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                 NHYD=["TODD"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                         HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-----------------------------------------------------------|
*#*****************************************************************************
*#    Todd Pond 3
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
*#*****************************************************************************
ROUTE RESERVOIR          NHYDout=["MS_P3"],   NHYDin=["TODD"],
                         RDT=[1](min),
```

```
                                TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [   0.0 ,   0.0 ]
                                        [ 0.014 , 0.155 ]
                                        [ 0.048 , 0.394 ]
                                        [ 0.061 , 0.56 ]
                                        [ 0.08 , 0.909 ]
                                        [ 0.088 , 1.089 ]
                                        [ 0.109 , 1.652 ]
                                        [ 0.118 , 1.952 ]
                                        [ 0.122 , 2.099 ]
                                        [ 1.972 , 2.269 ]
                                        [ 9.135 , 2.598 ]
                                        [ 15.608 , 2.826 ]
                                        [ 19.256 , 2.942 ]
                                        [ 27.282 , 3.181 ]
                                        [ 40.957 , 3.55 ]
                                        [ 56.372 , 3.929 ]
                                        [ 73.349 , 4.317 ]
                                        [ 85.469 , 4.579 ]
                                        [ 104.771 , 4.977 ]
                                        [   -1  ,   -1  ]  (max twenty pts)
                                NHYDovf=["P3-OVF"]
*%-----------------|-----------------------------------------------------------|
ADD HYD                 NHYDsum=["SN_TO"], NHYDs to
add=["GreenB"+"MS_P3"+"P3-OVF"+"TODD_MN2j"+"A2-MJ"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                NHYD=["SN_TO"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-----------------------------------------------------------|
*#
*# Hydrograph from Todd Drain routed to Corrigan Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so
the model will be more stable and give reasonable results. It is justifiable as ROUTE
CHANNELs aren't well suited to really flat slopes.
*
ROUTE CHANNEL           NHYDout=["N_TO"] ,NHYDin=["SN_TO"] ,
                        RDT=[1](min),
                        CHLGTH=[280](m),   CHSLOPE=[0.05](%),
                                           FPSLOPE=[0.05](%),
                        SECNUM=[1.0],          NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.075,-17.72
                          -0.045,17.72
                          0.075,80.62] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                        [-83.32, 90.00]
                        [-81.36, 89.50]
                        [-79.12, 89.00]
                        [-76.13, 88.50]
                        [-20.46, 88.00]
                        [-19.36, 87.50]
                        [-18.51, 87.00]
                        [-17.72, 86.50]
                        [-11.95, 85.24]
                        [-0.11, 85.12]
                        [11.49, 85.20]
                        [17.72, 86.50]
                        [19.74, 87.00]
                        [21.22, 87.50]
                        [22.68, 88.00]
                        [24.28, 88.50]
                        [26.79, 89.00]
                        [71.98, 90.00]
                        [80.62, 90.50]
```

```
*%-----------------|-----------------------------------------------------------|
SAVE HYD              NHYD=["N_TO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                      HYD_COMMENT=["Total inflows at Station 2462"]
*%-----------------|-----------------------------------------------------------|
*#*****************************************************************************
*#     Catchment CORRIG
*#     - To Corrigan Drain (south of the Jock)
*#     - Primarily Developed (medium density)
*#     - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
*#*****************************************************************************
*ROUTE RESERVOIR       NHYDout=["MS_P1"],   NHYDin=["CORRIG"],
*                      RDT=[1](min),
*                            TABLE of ( OUTFLOW-STORAGE ) values
*                                        (cms) - (ha-m)
*                                      [    0.0 ,   0.0 ]
*                                      [    0.06 ,  0.58]
*                                      [    -1  ,   -1  ]   (max twenty pts)
*                            NHYDovf=["P1-OVF"]
*%-----------------|-----------------------------------------------------------|
*ADD HYD               NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-----------------------------------------------------------|
*SAVE HYD              NHYD=["SN_CO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
*                      HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-----------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1" and its parameters remain the same.
CONTINUOUS STANDHYD   NHYD=["corr1"], DT=[1]min, AREA=[15.87](ha),
                      XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[77],
                      Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
*      -JFSA 2021-02-23 add DUALHYD for "corr1". "corr1" DUALHYD Parameters are the same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to "corr1".
*       At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for A1-Corrig
COMPUTE DUALHYD       NHYDin=["corr1"], CINLET=[1.818](cms), NINLET=[1],
                      MajNHYD=["corr1-MJ"]
                      MinNHYD=["corr1-MN"]
                      TMJSTO=[924](cu-m)
*%-----------------|-----------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now is called "corr2" and its parameters remain the same.
CONTINUOUS NASHYD     NHYD=["corr2"], DT=[1]min, AREA=[12.47](ha),
                      DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
                      N=[3], TP=[1.10]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*     -JFSA 2021-01-19 change A1-Corrig to be developed as per geoottawa website and apply the parameters of A2, the nearest sub-catchment to A1-Corrig, LGI is calculated based on A1-Corrig area
*     -JFSA 2021-01-19 update all Corrigan areas based on GIS measurements, and keep
```

```
LGI as it is from Corrigan Report, IBI Group, 2008 because LGI calculated is less than
LGI from the Corrigan Report
CONTINUOUS STANDHYD NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[324.037](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*
*       -JFSA 2021-01-25 add DUALHYD for A1-Corrig. A1-Corrig DUALHYD Parameters are the
same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to A1-Corrig.
*        At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for
A1-Corrig
COMPUTE DUALHYD     NHYDin=["A1-Corrig"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["A1-MJ"]
                    MinNHYD=["A1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
*                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
*                    N=[3.0], TP=[0.36]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["B1"], DT=[1]min, AREA=[2.77](ha),
                    DWF=[0](cms),  CN/C=[56], IA=[2.5](mm),
                    N=[3.0], TP=[0.23]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A4"], DT=[1]min, AREA=[1.27](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[253](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A4"], CINLET=[0.405](cms), NINLET=[1],
                    MajNHYD=["A4-MJ"]
                    MinNHYD=["A4-MN"]
                    TMJSTO=[68](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH101"], NHYDs to
add=["A1-MJ"+"A1-MN"+"corr1-MJ"+"corr1-MN"+"corr2"+"B1"+"A4-MN"]
```

```
*%-----------------|--------------------------------------------------------------|
SAVE HYD                NHYD=["MH101"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at MH101"]
*%-----------------|--------------------------------------------------------------|
ROUTE PIPE              PTYPE=[1]circ, NHYDout=["101-102"], RNUMBER=[1.0], PDIAM=[1050](mm),
                        PLNGTH=[368](m), PROUGH=[0.013], PSLOPE=[0.0054](m/m),
                        NHYDin=["MH101"], RDT=[1]
*%-----------------|--------------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the
major system from A2 can be added to Todd
*CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
*                        XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
*                        SCS curve number CN=[75],
*                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                                 LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                                 LGI=[566](m), MNI=[0.013], SCI=[0](min),
*                        Continuous simulation parameters:
*                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                        InterEventTime=[18](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
*COMPUTE DUALHYD         NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
*                        MajNHYD=["A2-MJ"]
*                        MinNHYD=["A2-MN"]
*                        TMJSTO=[924](cu-m)
*%-----------------|--------------------------------------------------------------|
ADD HYD                 NHYDsum=["MH102"], NHYDs to add=["A2-MN"+"101-102"]
*%-----------------|--------------------------------------------------------------|
SAVE HYD                NHYD=["MH102"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at MH102"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A5"], DT=[1]min, AREA=[1.6](ha),
                        XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[75],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                 LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                 LGI=[300](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
ADD HYD                 NHYDsum=["A5T"], NHYDs to add=["A4-MJ"+"A5"]
*%-----------------|--------------------------------------------------------------|
COMPUTE DUALHYD         NHYDin=["A5T"], CINLET=[0.357](cms), NINLET=[1],
                        MajNHYD=["A5-MJ"]
                        MinNHYD=["A5-MN"]
                        TMJSTO=[60](cu-m)
*%-----------------|--------------------------------------------------------------|
*   -JFSA Jan. 2021, A3 is a part of Todd so it is removed
*   -JFSA Jan. 2021, "A2-MJ" added to "Todd"
*CONTINUOUS STANDHYD NHYD=["A3"], DT=[1]min, AREA=[18.4](ha),
*                        XIMP=[0.58], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                        SCS curve number CN=[75],
*                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                                 LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                                 LGI=[450](m), MNI=[0.013], SCI=[0](min),
*                        Continuous simulation parameters:
*                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                        InterEventTime=[18](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
*ADD HYD                 NHYDsum=["A3-A2MJ"], NHYDs to add=["A2-MJ"+"A3"]
```

```
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A3-A2MJ"], CINLET=[2.208](cms), NINLET=[1],
*                    MajNHYD=["A3R-MJ"]
*                    MinNHYD=["A3R-MN"]
*                    TMJSTO=[908](cu-m)
*%-----------------|-----------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["102-103"], RNUMBER=[1.0], PDIAM=[1500](mm),
                    PLNGTH=[504](m), PROUGH=[0.013], PSLOPE=[0.0028](m/m),
                    NHYDin=["MH102"], RDT=[1]
*%-----------------|-----------------------------------------------------------|
ADD HYD             NHYDsum=["MH103"], NHYDs to add=["102-103"+"A5-MN"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD            NHYD=["MH103"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH103"]
*%-----------------|-----------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["103-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                    PLNGTH=[438](m), PROUGH=[0.013], PSLOPE=[0.0046](m/m),
                    NHYDin=["MH103"], RDT=[1]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A6"], DT=[1]min, AREA=[1.56](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[280](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
ADD HYD             NHYDsum=["A6T"], NHYDs to add=["A5-MJ"+"A6"]
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A6T"], CINLET=[0.357](cms), NINLET=[1],
                    MajNHYD=["A6-MJ"]
                    MinNHYD=["A6-MN"]
                    TMJSTO=[60](cu-m)
*%-----------------|-----------------------------------------------------------|
*   -JFSA Jan. 2021, A7-corrig is a part of Todd so it is removed
*CONTINUOUS STANDHYD NHYD=["A7-corrig"], DT=[1]min, AREA=[11.8](ha),
*                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[75],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                              LGI=[438](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*ADD HYD             NHYDsum=["A7-A3RMJ"], NHYDs to add=["A3R-MJ"+"A7-corrig"]
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A7-A3RMJ"], CINLET=[1.003](cms), NINLET=[1],
*                    MajNHYD=["A7R-MJ"]
*                    MinNHYD=["A7R-MN"]
*                    TMJSTO=[496](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD             NHYDsum=["MH104"], NHYDs to add=["A6-MN"+"103-104"+"TODD_MJin"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD            NHYD=["MH104"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH104"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B2"], DT=[1]min, AREA=[12.31](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
```

```
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[417](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["B2"], CINLET=[1.029](cms), NINLET=[1],
                         MajNHYD=["B2-MJ"]
                         MinNHYD=["B2-MN"]
                         TMJSTO=[508](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["315-333"], RNUMBER=[1.0], PDIAM=[1200](mm),
                         PLNGTH=[254](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                         NHYDin=["B2-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B3"], DT=[1]min, AREA=[5.59](ha),
                         XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[75],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[345](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["B3"], CINLET=[0.459](cms), NINLET=[1],
                         MajNHYD=["B3-MJ"]
                         MinNHYD=["B3-MN"]
                         TMJSTO=[227](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["MH333"], NHYDs to add=["B3-MN"+"315-333"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["MH333"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["Total Flows at MH333"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["333-335"], RNUMBER=[1.0], PDIAM=[1200](mm),
                         PLNGTH=[251](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                         NHYDin=["MH333"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["335-338"], RNUMBER=[1.0], PDIAM=[1200](mm),
                         PLNGTH=[185](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                         NHYDin=["333-335"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["338-340"], RNUMBER=[1.0], PDIAM=[1350](mm),
                         PLNGTH=[233](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                         NHYDin=["335-338"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B4"], DT=[1]min, AREA=[7.6](ha),
                         XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[75],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[388](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["B4"], CINLET=[0.655](cms), NINLET=[1],
                         MajNHYD=["B4-MJ"]
```

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                             MinNHYD=["B4-MN"]
                             TMJSTO=[323](cu-m)
*%-----------------|----------------------------------------------------------|
ADD HYD                      NHYDsum=["MH340"], NHYDs to add=["338-340"+"B4-MN"]
*%-----------------|----------------------------------------------------------|
SAVE HYD                     NHYD=["MH340"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                             HYD_COMMENT=["Total Flows at MH340"]
*%-----------------|----------------------------------------------------------|
ROUTE PIPE                   PTYPE=[1]circ, NHYDout=["340-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                             PLNGTH=[240](m), PROUGH=[0.013], PSLOPE=[0.0015](m/m),
                             NHYDin=["MH340"], RDT=[1]
*%-----------------|----------------------------------------------------------|
ADD HYD                      NHYDsum=["MH104T"], NHYDs to add=["340-104"+"MH104"]
*%-----------------|----------------------------------------------------------|
ROUTE PIPE                   PTYPE=[2]rect, NHYDout=["104-105"], RNUMBER=[1.0],
PWIDTH=[2400](mm)  by PHEIGHT=[2100](mm),
                             PLNGTH=[380](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                             NHYDin=["MH104T"], RDT=[1]
*%-----------------|------------------------------------------------------------------
-------------------------------|
CONTINUOUS STANDHYD NHYD=["B5"], DT=[1]min, AREA=[2.2](ha),
                             XIMP=[0.57], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                             SCS curve number CN=[75],
                             Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                     LGP=[40](m), MNP=[0.25], SCP=[0](min),
                             Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                     LGI=[187](m), MNI=[0.013], SCI=[0](min),
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                             SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                             InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------|
COMPUTE DUALHYD              NHYDin=["B5"], CINLET=[0.260](cms), NINLET=[1],
                             MajNHYD=["B5-MJ"]
                             MinNHYD=["B5-MN"]
                             TMJSTO=[250](cu-m)
*%-----------------|----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A8"], DT=[1]min, AREA=[0.96](ha),
                             XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                             SCS curve number CN=[75],
                             Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                     LGP=[40](m), MNP=[0.25], SCP=[0](min),
                             Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                     LGI=[186](m), MNI=[0.013], SCI=[0](min),
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                             SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                             InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------|
ADD HYD                      NHYDsum=["A8T"], NHYDs to add=["A6-MJ"+"A8"]
*%-----------------|----------------------------------------------------------|
COMPUTE DUALHYD              NHYDin=["A8T"], CINLET=[0.238](cms), NINLET=[1],
                             MajNHYD=["A8-MJ"]
                             MinNHYD=["A8-MN"]
                             TMJSTO=[40](cu-m)
*%-----------------|----------------------------------------------------------|
ADD HYD                      NHYDsum=["MH105"], NHYDs to
add=["104-105"+"B5-MN"+"A8-MN"+"TODD_MN3j"]
*%-----------------|----------------------------------------------------------|
SAVE HYD                     NHYD=["MH105"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                             HYD_COMMENT=["Total Flows at MH105"]
*%-----------------|----------------------------------------------------------|
DIVERT HYD                   NHYDin=["A8-MJ"] NIDout=[2]max five,
                             outflow hydrographs (NHYDs)=["A8-MJ-JR" "A8-MJ-B6"]
                             flow distribution table: (modify as necessary)
                             Note: all flows are in (cms)
```

```
                            QIDi  +  QIDii   =  QTOTAL
                           [    0  +     0     =     0    ]                          ]
                           [   50 +    50     =     100   ] end
*%-----------------|------------------------------------------------------------------------
-------------------------------|
DIVERT HYD                 NHYDin=["MH105"] NIDout=[2]max five,
                           outflow hydrographs (NHYDs)=["MH105-JR"  "MH105-B6"]
                           flow distribution table: (modify as necessary)
                           Note: all flows are in (cms)
                            QIDi  +  QIDii   =  QTOTAL
                           [    0  +     0     =     0    ]
                           [    0  +    3.0   =    3.0   ]
                           [   96.9+  3.1     =    100   ] end
*%-----------------|------------------------------------------------------------------------
-------------------------------|
CONTINUOUS STANDHYD NHYD=["B7"], DT=[1]min, AREA=[7.19](ha),
                           XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                           SCS curve number CN=[75],
                           Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                           Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[211](m), MNI=[0.013], SCI=[0](min),
                           Continuous simulation parameters:
                           IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                           SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                           InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------------|
ADD HYD                    NHYDsum=["B7-B4MJ"], NHYDs to add=["B4-MJ"+"B7"]
*%-----------------|----------------------------------------------------------------|
COMPUTE DUALHYD            NHYDin=["B7-B4MJ"], CINLET=[0.629](cms), NINLET=[1],
                           MajNHYD=["B7R-MJ"]
                           MinNHYD=["B7R-MN"]
                           TMJSTO=[311](cu-m)
*%-----------------|----------------------------------------------------------------|
ROUTE PIPE                 PTYPE=[1]circ, NHYDout=["360-106A"], RNUMBER=[1.0], PDIAM=[1050](mm),
                           PLNGTH=[167](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                           NHYDin=["B7R-MN"], RDT=[1]
*%-----------------|----------------------------------------------------------------|
*     -JFSA 2021-01-19 change B6 to be developed as per geoottawa website and apply the
parameters of A7, the nearest sub-catchment to B6, LGI is calculated based on B6 area
CONTINUOUS STANDHYD NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
                           XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                           SCS curve number CN=[75],
                           Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                           Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[148.099](m), MNI=[0.013], SCI=[0](min),
                           Continuous simulation parameters:
                           IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                           SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                           InterEventTime=[18](hrs),   END=-1
*%-----------------|----------------------------------------------------------------|
*     -JFSA 2021-01-25  add B1 DUALHYD as per Corrigan Report, IBI Group, 2008
COMPUTE DUALHYD            NHYDin=["B6"], CINLET=[0.064](cms), NINLET=[1],
                           MajNHYD=["B6-MJ"]
                           MinNHYD=["B6-MN"]
                           TMJSTO=[5484](cu-m)
*%-----------------|----------------------------------------------------------------|
*CONTINUOUS NASHYD          NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
*                           DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
*                           N=[3.0], TP=[0.36]hrs,
*                           Continuous simulation parameters:
*                           IaRECper=[4](hrs),
*                           SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                           InterEventTime=[12](hrs)
*                           Baseflow simulation parameters:
```

```
*                           BaseFlowOption=[1] ,
*                           InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
*                           VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*%    -EX-LAND is external land. It is a part of JOCKVA sub-catchment as per Corrigan Report, IBI Group, 2008
CONTINUOUS STANDHYD NHYD=["EX-LAND"], DT=[1]min, AREA=[32.5](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[465.475](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["EX-LAND"], CINLET=[2.275](cms), NINLET=[1],
                    MajNHYD=["EX-LAND-MJ"]
                    MinNHYD=["EX-LAND-MN"]
                    TMJSTO=[1365](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD             NHYDsum=["B6-B7ExMJ"], NHYDs to add=["B7R-MJ"+"EX-LAND-MJ"+"B5-MJ"+"B6-MJ"+"B6-MN"+"A8-MJ-B6"]
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B6-B7ExMJ"], CINLET=[0.064](cms), NINLET=[1],
                    MajNHYD=["B6R-MJ"]
                    MinNHYD=["B6R-MN"]
                    TMJSTO=[5484](cu-m)
*%-----------------|-----------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["105-106A"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[208](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH105-B6"], RDT=[1]
*%-----------------|-----------------------------------------------------------|
ADD HYD             NHYDsum=["MH106A"], NHYDs to add=["360-106A"+"105-106A"+"B6R-MN"+"B6R-MJ"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD            NHYD=["MH106A"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH106A"]
*%-----------------|-----------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH106 is called MH117/106 in Corrigan Report, IBI Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["106A-106"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[190](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH106A"], RDT=[1]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A9"], DT=[1]min, AREA=[2.44](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[262](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A9"], CINLET=[0.547](cms), NINLET=[1],
                    MajNHYD=["A9-MJ"]
                    MinNHYD=["A9-MN"]
                    TMJSTO=[0](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD             NHYDsum=["MH106"], NHYDs to add=["106A-106"+"A9-MN"]
```

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*%-----------------|--------------------------------------------------------------|
SAVE HYD            NHYD=["MH106"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH106"]
*%-----------------|--------------------------------------------------------------|
*%   -JFSA 2021-01-12 THE MANHOLE MH107 is called MH118/107 in Corrigan Report, IBI Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["106-107"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[122.5](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH106"], RDT=[1]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A10"], DT=[1]min, AREA=[4.14](ha),
                    XIMP=[0.35], TIMP=[0.47], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|--------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A10"], CINLET=[0.310](cms), NINLET=[1],
                    MajNHYD=["A10-MJ"]
                    MinNHYD=["A10-MN"]
                    TMJSTO=[228](cu-m)
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A11"], DT=[1]min, AREA=[10.61](ha),
                    XIMP=[0.53], TIMP=[0.62], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|--------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A11"], CINLET=[0.993](cms), NINLET=[1],
                    MajNHYD=["A11-MJ"]
                    MinNHYD=["A11-MN"]
                    TMJSTO=[556](cu-m)
*%-----------------|--------------------------------------------------------------|
ADD HYD             NHYDsum=["MH107"], NHYDs to add=["106-107"+"A10-MN"+"A11-MN"]
*%-----------------|--------------------------------------------------------------|
SAVE HYD            NHYD=["MH107"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH107"]
*%-----------------|--------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["107-119"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[114](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                    NHYDin=["MH107"], RDT=[1]
*%-----------------|--------------------------------------------------------------|
*%   -JFSA 2021-01-12 THE MANHOLE MH108 is called MH120/108 in Corrigan Report, IBI Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["119-108"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[65.8](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                    NHYDin=["107-119"], RDT=[1]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A12"], DT=[1]min, AREA=[12.29](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
```

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                          Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[183](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD           NHYDin=["A12"], CINLET=[1.029](cms), NINLET=[1],
                          MajNHYD=["A12-MJ"]
                          MinNHYD=["A12-MN"]
                          TMJSTO=[672](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD       NHYD=["A13"], DT=[1]min, AREA=[2.59](ha),
                          XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                          SCS curve number CN=[75],
                          Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                          Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[379](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD           NHYDin=["A13"], CINLET=[0.571](cms), NINLET=[1],
                          MajNHYD=["A13-MJ"]
                          MinNHYD=["A13-MN"]
                          TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-01-22 add the Corrigan pond area ("Pond-Block")
CONTINUOUS STANDHYD       NHYD=["Pond-Block"], DT=[1]min, AREA=[2.94](ha),
                          XIMP=[0.415], TIMP=[0.415], DWF=[0](cms), LOSS=[2],
                          SCS curve number CN=[75],
                          Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                          Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[183](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD                   NHYDsum=["MH108"], NHYDs to add=["119-108"+"A13-MN"+"A12-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                  NHYD=["MH108"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at MH108"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE                PTYPE=[1]circ, NHYDout=["108-116"], RNUMBER=[1.0], PDIAM=[1800](mm),
                          PLNGTH=[76.6](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                          NHYDin=["MH108"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE                PTYPE=[1]circ, NHYDout=["116-corrig"], RNUMBER=[1.0],
PDIAM=[1800](mm),
                          PLNGTH=[79.5](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                          NHYDin=["108-116"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD                   NHYDsum=["Corrigan"], NHYDs to add=["116-corrig"+"Pond-Block"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                  NHYD=["Corrigan"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at Corrigan Pond]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR           NHYDout=["Co-P"],  NHYDin=["Corrigan"],
                          RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [   0.0 ,   0.0 ]
```

```
                                         [     0.015 ,  0.04118]
                                         [     0.030 ,  0.08297]
                                         [     0.045 ,  0.12537]
                                         [     0.060 ,  0.16837]
                                         [     0.075 ,  0.21199]
                                         [     0.090 ,  0.27545]
                                         [     0.105 ,  0.34650]
                                         [     0.120 ,  0.42049]
                                         [     0.135 ,  0.50188]
                                         [     0.186 ,  0.60307]
                                         [     2.110 ,  0.79083]
                                         [     5.874 ,  1.00271]
                                         [     11.395 ,  1.29643]
                                         [     18.770 ,  1.62054]
                                         [     28.143 ,  1.97516]
                                         [     -1    ,    -1   ]   (max twenty pts)
                              NHYDovf=["Co-P-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["corrig"],  NHYDs to
add=["Co-P-OVF"+"Co-P"+"N_TO"+"MH105-JR"+"A8-MJ-JR"+"A9-MJ"+"A10-MJ"+"A11-MJ"+"A12-MJ"+"A
13-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["corrig"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                         HYD_COMMENT=["Total Flows at Corrigan Pond"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Corrigan Pond 1
*#     - Rating curve obtained from Barrhaven South MSS modeling
*#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
*#*****************************************************************************
*ROUTE RESERVOIR          NHYDout=["MS_P1"],   NHYDin=["CORRIG"],
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                          (cms) - (ha-m)
*                                         [     0.0 ,    0.0 ]
*                                         [     0.06 ,  0.58]
*                                         [     -1   ,    -1   ]   (max twenty pts)
*                               NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD                  NHYDsum=["SN_CO"],  NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD                 NHYD=["SN_CO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
*                         HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Corrigan Drain routed to Jockvale Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL            NHYDout=["N_MI"] ,NHYDin=["corrig"] ,
                         RDT=[1](min),
                         CHLGTH=[580](m),   CHSLOPE=[0.4448](%),
                                            FPSLOPE=[0.4448](%),
                         SECNUM=[1.0],          NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=
                           [0.075,-17.72
                           -0.045,17.72
                           0.075,80.62] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=
                         [-83.32,  90.00]
                         [-81.36,  89.50]
                         [-79.12,  89.00]
                         [-76.13,  88.50]
                         [-20.46,  88.00]
                         [-19.36,  87.50]
                         [-18.51,  87.00]
                         [-17.72,  86.50]
```

```
                         [-11.95, 85.24]
                         [-0.11, 85.12]
                         [11.49, 85.20]
                         [17.72, 86.50]
                         [19.74, 87.00]
                         [21.22, 87.50]
                         [22.68, 88.00]
                         [24.28, 88.50]
                         [26.79, 89.00]
                         [71.98, 90.00]
                         [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment MILLS
*#     - To SWM Facility north of the Jock
*#     - Primarily residental development
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["MILLS"], DT=[1]min, AREA=[175.99](ha),
                         XIMP=[0.38], TIMP=[0.38], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[74],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                 LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                 LGI=[1118.123](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Chapman Mills SWM Pond
*#     - Rating curve obtained from CCL hydraulic modeling
*#*****************************************************************************
ROUTE RESERVOIR          NHYDout=["MILL_P"],  NHYDin=["MILLS"],
                         RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                         [    0.0 ,   0.0 ]
                                         [    0.01 ,  0.01]
                                         [    0.05 ,  0.06]
                                         [    0.09 ,  0.11]
                                         [    0.13 ,  0.15]
                                         [    0.18 ,  0.19]
                                         [    0.28 ,  0.28]
                                         [    0.37 ,  0.34]
                                         [    0.45 ,  0.40]
                                         [    0.51 ,  0.44]
                                         [    0.56 ,  0.47]
                                         [    0.64 ,  0.52]
                                         [    0.76 ,  0.59]
                                         [    0.86 ,  0.65]
                                         [    1.09 ,  0.78]
                                         [    1.44 ,  0.96]
                                         [    3.18 ,  1.84]
                                         [    4.05 ,  2.31]
                                         [    -1   ,   -1  ]  (max twenty pts)
                               NHYDovf=["MIL-OV"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["SN_MI"], NHYDs to add=["N_MI"+"MIL-OV"+"MILL_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["SN_MI"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["Total Flows at Jockvale Road"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Jockvale Road routed to Heart's Desire
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
```

```
*#
ROUTE CHANNEL         NHYDout=["N_DE"],NHYDin=["SN_MI"],
                      RDT=[1](min),
                      CHLGTH=[1962](m),   CHSLOPE=[0.2227](%),
                                           FPSLOPE=[0.2227](%),
                      SECNUM=[1.0],        NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.075,-17.56
                        -0.045,18.27
                        0.075,32.51] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                      [-54.07, 85.00]
                      [-39.43, 84.50]
                      [-28.30, 84.00]
                      [-24.12, 83.50]
                      [-22.30, 83.00]
                      [-20.55, 82.50]
                      [-17.56, 82.00]
                      [-12.63, 81.22]
                      [-0.11, 80.75]
                      [11.55, 81.22]
                      [18.27, 82.00]
                      [19.82, 82.50]
                      [22.48, 83.00]
                      [27.90, 83.50]
                      [29.31, 84.00]
                      [30.81, 84.50]
                      [32.51, 85.00]
*%-----------------|----------------------------------------------------------|
*#*****************************************************************************
*#     Catchment DESIRE
*#     - To Jock River (north of the Jock)
*#     - Rural-estate subdivision (Heart's Desire Community)
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["DESIRE"], DT=[1]min, AREA=[23.78](ha),
                      XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[77],
                      Pervious    surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[400](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[18](hrs),    END=-1
*%-----------------|----------------------------------------------------------|
*#*****************************************************************************
*#     Catchment JOCKVA
*#     - To Jockvale SWM Facility
*#     - Residential development & golf course
*#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
*#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two
areas JOCKVA and EX-LAND 32.5 ha as per IBI GROUP, July 2008.
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["JOCKVA"], DT=[1]min, AREA=[225.13](ha),
                      XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                      SCS curve number CN=[74],
                      Pervious    surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[1310.55](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[18](hrs),    END=-1
*%-----------------|----------------------------------------------------------|
```

```
ADD HYD               NHYDsum=["JOCKVA-TO"], NHYDs to
add=["EX-LAND-MN"+"JOCKVA"+"B2-MI"+"B3-MI"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD              NHYD=["JOCKVA-TO"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                      HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Jockvale SWM Facility
*#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
*#*****************************************************************************
ROUTE RESERVOIR       NHYDout=["JOCK_P"],   NHYDin=["JOCKVA-TO"],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [    0.0 ,   0.0 ]
                                      [    0.27 ,  0.03]
                                      [    0.28 ,  0.55]
                                      [    0.29 ,  1.14]
                                      [    0.30 ,  1.80]
                                      [    0.31 ,  2.32]
                                      [    1.12 ,  2.87]
                                      [    2.92 ,  3.45]
                                      [    4.64 ,  4.07]
                                      [    6.69 ,  4.72]
                                      [    9.02 ,  5.39]
                                      [    11.62 ,  6.10]
                                      [    14.42 ,  6.85]
                                      [    17.45 ,  7.62]
                                      [    20.69 ,  8.44]
                                      [    24.08 ,  9.28]
                                      [    27.68 ,  10.17]
                                      [    -1   ,   -1   ]  (max twenty pts)
                            NHYDovf=["JO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD               NHYDsum=["SN_DE"], NHYDs to add=["N_DE"+"DESIRE"+"JO-OVF"+"JOCK_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD              NHYD=["SN_DE"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                      HYD_COMMENT=["Total Flows at Heart's Desire"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Heart's Desire routed to Rideau River
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
*#
ROUTE CHANNEL         NHYDout=["N1"] ,NHYDin=["SN_DE"] ,
                      RDT=[1](min),
                      CHLGTH=[563](m),   CHSLOPE=[0.9668](%),
                                         FPSLOPE=[0.9668](%),
                      SECNUM=[1.0],      NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.075,-30.20
                        -0.045,30.20
                        0.075,48.48] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                      [-98.46, 81.50]
                      [-92.24, 81.00]
                      [-86.88, 80.50]
                      [-81.54, 80.00]
                      [-74.36, 79.50]
                      [-63.54, 79.00]
                      [-39.23, 78.50]
                      [-34.51, 78.00]
                      [-33.01, 77.50]
                      [-30.20, 77.00]
                      [-13.42, 76.18]
                      [-1.14, 76.09]
                      [17.06, 76.18]
```

```
                         [30.20, 77.00]
                         [32.95, 77.50]
                         [34.06, 78.00]
                         [35.11, 78.50]
                         [36.32, 79.00]
                         [37.74, 79.50]
                         [48.48, 81.50]
*%-----------------|--------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment S-2
*#     - To Jock River (north and south)
*#     - Undeveloped floodplain and river
*#*****************************************************************************
CONTINUOUS NASHYD        NHYD=["S-2"], DT=[1]min, AREA=[102.94](ha),
                         DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                         N=[3], TP=[0.40]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[12](hrs)
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
ADD HYD                  NHYDsum=["SN_N1"], NHYDs to add=["N1"+"S-2"]
*%-----------------|--------------------------------------------------------------|
SAVE HYD                 NHYD=["SN_N1"],    # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["Total Flows at Rideau River"]
*%-----------------|--------------------------------------------------------------|
*##############################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                        ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|--------------------------------------------------------------|
*%  10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[10]
*%                        ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|--------------------------------------------------------------|
*%  25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[25]
*%                        ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|--------------------------------------------------------------|
*%  50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[50]
*%                        ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|--------------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                        ["100YC3H.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|--------------------------------------------------------------|
*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                        ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|--------------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                        ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[101]
*%                        ["A24SC100.stm"] <--storm filename, one per line for NSTORM time
*START                    TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
*%                        ["A24SC100_60.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

```
===================================================================================
SSSSS   W   W   M   M   H   H   Y   Y   M   M   OOO       222    000    11   5555   =========
S       W W W   MM MM   H   H    Y Y    MM MM   O   O       2    0   0  11   5
SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O       2    0   0  11   5      Ver 5.500
    S    W W    M   M   H   H     Y     M   M   O   O     222    0   0  11   555    FEB 2015
SSSSS    W W    M   M   H   H     Y     M   M   OOO       2      0   0  11     5    =========
                                                          2      0   0  11     5    # 2549237
       StormWater Management HYdrologic Model               222    000    11   555    =========
***********************************************************************************
************************************** SWMHYMO Ver 5.500 **************************************
*****************  A single event and continuous hydrologic simulation model  *****************
*****************     based on the principles of HYMO and its successors     *****************
*****************                  OTTHYMO-83 and OTTHYMO-89.                 *****************
***********************************************************************************
***************** Distributed by:  J.F. Sabourin and Associates Inc.          *****************
*****************                  Ottawa, Ontario: (613) 836-3884           *****************
*****************                  Gatineau, Quebec: (819) 243-6858          *****************
*****************                  E-Mail: swmhymo@jfsa.Com                  *****************
***********************************************************************************
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++ Licensed user: JFSAinc.                                  +++++++++++++++++
+++++++++++++++++                Ottawa             SERIAL#:2549237        +++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
***********************************************************************************
*****************            ++++++ PROGRAM ARRAY DIMENSIONS ++++++         *****************
*****************            Maximum value for ID numbers   :     11       *****************
*****************            Max. number of rainfall points: 105408        *****************
*****************            Max. number of flow points    : 105408        *****************
***********************************************************************************
********************************   S U M M A R Y   O U T P U T   ********************************
***********************************************************************************
*                  RUN DATE: 2021-03-04     TIME: 11:54:16     RUN COUNTER: 002083           *
***********************************************************************************
* Input   file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_S-Fr_SD.dat                                                            *
* Output  file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_S-Fr_SD.out                                                            *
* Summary file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_S-Fr_SD.sum                                                            *
* User comments:                                                                                 *
* 1:_____________________________________________________________________________________________*
* 2:_____________________________________________________________________________________________*
* 3:_____________________________________________________________________________________________*
***********************************************************************************
#*************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date        : 04-03-2021
#  Modeller    : [MM]
#  Company     : JFSAinc.
#  License #   :  2549237
#*************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# -----------------------------------------------------------------------
  ** END OF RUN :    1
***********************************************************************************
 RUN#:COMMAND#
R0002:C00001----------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0002 ]
#*************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date        : 04-03-2021
#  Modeller    : [MM]
#  Company     : JFSAinc.
#  License #   :  2549237
#*************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# -----------------------------------------------------------------------
R0002:C00002----------------------------------------------------------------------------------
     READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
R0002:C00003----------------------------------------------------------------------------------
     MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
R0002:C00004----------------------------------------------------------------------------------
     DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   4.67 mm] [N= 3.00]
       Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0002:C00005----------------------------------------------------------------------------------
     COMPUTE API
       [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
       {APImax= 80.12:  APIavg= 56.74:  APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:JR_HW       3680.00    6.204 No_date   37:06   11.47 .252     .000
       [CN= 64.0:  N= 3.00:  Tp= 7.13]
       [IaREC= 4.00:  SMIN= 57.05:  SMAX=380.32:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_13        971.00    2.187 No_date   32:37   10.75 .236     .000
       [CN= 61.0:  N= 3.00:  Tp= 3.76]
       [IaREC= 4.00:  SMIN= 64.50:  SMAX=430.01:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:JR_GWM      3074.00    3.218 No_date   39:59    9.43 .207     .000
       [CN= 55.0:  N= 3.00:  Tp=11.33]
       [IaREC= 4.00:  SMIN= 83.24:  SMAX=554.96:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:JR_ASH      1781.00    5.504 No_date   32:45   13.94 .306     .000
       [CN= 72.0:  N= 3.00:  Tp= 3.91]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_11        500.00    2.720 No_date   29:22   11.98 .263     .000
       [CN= 66.0:  N= 3.00:  Tp= 1.24]
       [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:NN_CK       1917.00    4.042 No_date   34:34   11.98 .263     .000
       [CN= 66.0:  N= 3.00:  Tp= 5.29]
       [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0002:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_10       5666.00   11.228 No_date   38:07   13.94 .306     .000
       [CN= 72.0:  N= 3.00:  Tp= 8.00]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:KG_CK       8376.00   11.072 No_date   39:59   11.98 .263     .000
       [CN= 66.0:  N= 3.00:  Tp=11.66]
       [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0002:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_9        1132.00    4.434 No_date   30:56   13.35 .293     .000
       [CN= 70.0:  N= 3.00:  Tp= 2.51]
       [IaREC= 4.00:  SMIN= 43.07:  SMAX=287.10:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:NC_CK       4464.00    5.504 No_date   39:59   10.98 .241     .000
       [CN= 62.0:  N= 3.00:  Tp=11.32]
       [IaREC= 4.00:  SMIN= 61.90:  SMAX=412.66:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_8         131.00     .805 No_date   28:57   11.22 .247     .000
       [CN= 63.0:  N= 3.00:  Tp=  .90]
       [IaREC= 4.00:  SMIN= 59.42:  SMAX=396.11:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0002:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:HB_DR       3854.00    6.242 No_date   38:46   11.98 .263     .000
       [CN= 66.0:  N= 3.00:  Tp= 8.42]
       [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_7        3197.00    4.651 No_date   36:31    9.85 .217     .000
       [CN= 57.0:  N= 3.00:  Tp= 6.65]
       [IaREC= 4.00:  SMIN= 76.32:  SMAX=508.81:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_6         165.00     .413 No_date   33:07   12.24 .269     .000
       [CN= 67.0:  N= 3.00:  Tp= 4.18]
       [IaREC= 4.00:  SMIN= 50.55:  SMAX=336.97:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0002:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:VG_DR       1332.00    3.148 No_date   35:23   13.94 .306     .000
       [CN= 72.0:  N= 3.00:  Tp= 5.95]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_5         224.00    2.597 No_date   28:45   15.91 .350     .000
       [CN= 77.0:  N= 3.00:  Tp=  .75]
       [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0002:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:FL_CK       4945.00   14.839 No_date   33:25   14.57 .320     .000
       [CN= 74.0:  N= 3.00:  Tp= 4.45]
       [IaREC= 4.00:  SMIN= 36.67:  SMAX=244.49:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_5A2        20.00     .309 No_date   28:36   17.79 .391     .000
       [CN= 81.0:  N= 3.00:  Tp=  .62]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0002:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_5A1      1412.00    3.090 No_date   38:04   15.22 .334     .000
       [CN= 75.0:  N= 3.00:  Tp= 8.00]
       [IaREC= 4.00:  SMIN= 33.81:  SMAX=225.43:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_4         585.00    4.325 No_date   29:58   17.79 .391     .000
       [CN= 81.0:  N= 3.00:  Tp= 1.75]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:LM_CK       1021.00    5.747 No_date   30:50   17.39 .382     .000
       [CN= 80.0:  N= 3.00:  Tp= 2.46]
       [IaREC= 4.00:  SMIN= 26.32:  SMAX=175.50:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_2         177.00    2.052 No_date   28:45   15.91 .350     .000
       [CN= 77.0:  N= 3.00:  Tp=  .75]
       [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SM_DR       1122.00    5.337 No_date   31:50   17.79 .391     .000
       [CN= 81.0:  N= 3.00:  Tp= 3.25]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:MO_DR       2737.00   11.528 No_date   31:35   15.56 .342     .000
       [CN= 76.0:  N= 3.00:  Tp= 3.03]
       [IaREC= 4.00:  SMIN= 32.46:  SMAX=216.39:  SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0002:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:JR_HW       3680.00    6.204 No_date   37:06   11.47  n/a     .000
                      +     1.0 02:SW_13        971.00    2.187 No_date   32:37   10.75  n/a     .000
                   SUM=     1.0 01:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0002:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .429:Dmax= 2.557}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0002:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
                      +     1.0 02:JR_GWM      3074.00    3.218 No_date   39:59    9.43  n/a     .000
                   SUM=     1.0 01:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0002:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
                out <=      1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
      {MxStoUsed=.3585E+02  m3}
#
R0002:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N12         7725.00    2.609 No_date   58:09   10.57  n/a     .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .501:Dmax= 1.329}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0002:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N12         7725.00    2.609 No_date   58:08   10.57  n/a     .000
                      +     1.0 02:JR_ASH      1781.00    5.504 No_date   32:45   13.94  n/a     .000
                   SUM=     1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
R0002:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0002:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
      [RDT= 1.00] out<-     1.0 01:Dum11       9506.00    7.379 No_date   33:12   11.20  n/a     .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .591:Dmax= 2.108}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
```

```
#
R0002:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:Duml1       9506.00    7.379 No_date   33:12   11.20  n/a     .000
                     +        1.0 02:SW_11        500.00    2.720 No_date   29:22   11.98  n/a     .000
                     +        1.0 02:NN_CK       1917.00    4.042 No_date   34:34   11.98  n/a     .000
                  SUM=        1.0 01:S_N11      11923.00   12.077 No_date   33:14   11.36  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0002:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N11      11923.00   12.077 No_date   33:14   11.36  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N10        11923.00    8.276 No_date   39:46   11.36  n/a     .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .462:Dmax=  .886}
#
# Addition of Subwatershed 10 to Node 10
#
R0002:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N10        11923.00    8.276 No_date   39:46   11.36  n/a     .000
                     +        1.0 02:SW_10       5666.00   11.228 No_date   38:07   13.94  n/a     .000
                  SUM=        1.0 01:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
R0002:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                  1.0 01:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0002:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
                     +        1.0 02:KG_CK       8376.00   11.072 No_date   39:59   11.98  n/a     .000
                  SUM=        1.0 01:S_N10A     25965.00   30.328 No_date   39:58   12.12  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0002:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N10A     25965.00   30.328 No_date   39:58   12.12  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N9         25965.00   29.579 No_date   39:59   12.12  n/a     .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .595:Dmax= 1.208}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0002:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N9         25965.00   29.579 No_date   39:59   12.12  n/a     .000
                     +        1.0 02:SW_9        1132.00    4.434 No_date   30:56   13.35  n/a     .000
                     +        1.0 02:NC_CK       4464.00    5.504 No_date   39:59   10.98  n/a     .000
                  SUM=        1.0 01:S_N9       31561.00   36.313 No_date   39:59   12.00  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0002:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N9       31561.00   36.313 No_date   39:59   12.00  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N8         31561.00   34.173 No_date   39:59   12.00  n/a     .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .418:Dmax= 1.281}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0002:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N8         31561.00   34.173 No_date   39:59   12.00  n/a     .000
                     +        1.0 02:SW_8         131.00     .805 No_date   28:57   11.22  n/a     .000
                     +        1.0 02:HB_DR       3854.00    6.242 No_date   38:46   11.98  n/a     .000
                  SUM=        1.0 01:S_N8       35546.00   40.474 No_date   39:59   12.00  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N8       35546.00   40.474 No_date   39:59   12.00  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N7         35546.00   32.891 No_date   44:30   12.00  n/a     .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .208:Dmax= 1.651}
#
# Addition of Subwatershed 7 to Node 7
#
R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N7         35546.00   32.891 No_date   44:30   12.00  n/a     .000
                     +        1.0 02:SW_7        3197.00    4.651 No_date   36:31    9.85  n/a     .000
                  SUM=        1.0 01:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                  1.0 01:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
                 out <=   1.0 01:RES_RF     38743.00   23.265 No_date   55:09   11.82  n/a     .000
     {MxStoUsed=.7801E+02  m3}
R0002:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                  1.0 01:RES_RF     38743.00   23.265 No_date   55:09   11.82  n/a     .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0002:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:RES_RF     38743.00   23.265 No_date   55:09   11.82  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N6         38743.00   23.228 No_date   56:38   11.82  n/a     .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .432:Dmax=  .808}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0002:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N6         38743.00   23.228 No_date   56:38   11.82  n/a     .000
                     +        1.0 02:SW_6         165.00     .413 No_date   33:07   12.24  n/a     .000
                     +        1.0 02:VG_DR       1332.00    3.148 No_date   35:23   13.94  n/a     .000
                  SUM=        1.0 01:S_N6       40240.01   23.318 No_date   39:59   11.89  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0002:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N6       40240.01   23.318 No_date   39:59   11.89  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N5         40240.01   23.285 No_date   56:09   11.89  n/a     .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .378:Dmax=  .917}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0002:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N5         40240.01   23.285 No_date   56:09   11.89  n/a     .000
                     +        1.0 02:SW_5         224.00    2.597 No_date   28:45   15.91  n/a     .000
                     +        1.0 02:FL_CK       4945.00   14.839 No_date   33:25   14.57  n/a     .000
                  SUM=        1.0 01:S_N5       45409.01   33.166 No_date   37:08   12.20  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0002:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N5       45409.01   33.166 No_date   37:08   12.20  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N5A        45409.01   33.135 No_date   37:20   12.20  n/a     .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .443:Dmax=  .937}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0002:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N5A        45409.01   33.135 No_date   37:20   12.20  n/a     .000
                     +        1.0 02:SW_5A2        20.00     .309 No_date   28:36   17.79  n/a     .000
                     +        1.0 02:SW_5A1      1412.00    3.090 No_date   38:04   15.22  n/a     .000
                  SUM=        1.0 01:S_N5A      46841.01   36.236 No_date   37:28   12.30  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0002:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N5A      46841.01   36.236 No_date   37:28   12.30  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N4         46841.01   35.288 No_date   39:22   12.30  n/a     .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .695:Dmax= 2.844}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0002:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N4         46841.01   35.288 No_date   39:22   12.30  n/a     .000
                     +        1.0 02:SW_4         585.00    4.325 No_date   29:58   17.79  n/a     .000
                     +        1.0 02:LM_CK       1021.00    5.747 No_date   30:50   17.39  n/a     .000
                  SUM=        1.0 01:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
R0002:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                  1.0 01:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
      fname :S_N4.0002
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0002:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N2         48447.00   37.455 No_date   38:49   12.47  n/a     .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .715:Dmax= 2.845}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0002:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N2         48447.00   37.455 No_date   38:49   12.47  n/a     .000
                     +        1.0 02:SW_2         177.00    2.052 No_date   28:45   15.91  n/a     .000
                     +        1.0 02:SM_DR       1122.00    5.337 No_date   31:50   17.79  n/a     .000
                     +        1.0 02:MO_DR       2737.00   11.528 No_date   31:35   15.56  n/a     .000
                  SUM=        1.0 01:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
R0002:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                  1.0 01:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#***************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0002:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_416      52483.00   45.431 No_date   35:37   12.76  n/a     .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .577:Dmax= 2.212}
#***************************************************************************
#    Catchment SW-1a
#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#     - Undeveloped agricultural land
#***************************************************************************
R0002:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_1a        536.42    1.885 No_date   31:21   13.01 .286     .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime= 12.00]
R0002:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe     44.93    3.420 No_date   28:04   32.20 .707     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:N_416      52483.00   45.431 No_date   35:37   12.76  n/a     .000
                     +        1.0 02:SW_1a        536.42    1.885 No_date   31:21   13.01  n/a     .000
                     +        1.0 02:S-1-Okeefe     44.93    3.420 No_date   28:04   32.20  n/a     .000
                  SUM=        1.0 01:SN_416     53064.36   46.619 No_date   35:24   12.78  n/a     .000
R0002:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                  1.0 01:SN_416     53064.36   46.619 No_date   35:24   12.78  n/a     .000
      fname :SN_416.0002
      remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0002:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_416     53064.36   46.619 No_date   35:24   12.78  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_OK       53064.36   46.610 No_date   35:24   12.78  n/a     .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.190:Dmax= 1.879}
#***************************************************************************
#    Catchment OKEEFE
#     - To O'Keefe drain (north of the Jock)
#     - Developed with assumed 43% imp.
#     - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#     - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#***************************************************************************
R0002:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-1           63.72     .305 No_date   28:59    9.62 .211     .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime= 12.00]
R0002:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:O-1           63.72     .305 No_date   28:59    9.62  n/a     .000
     [RDT= 1.00] out<-    1.0 01:O-1R          63.72     .272 No_date   29:20    9.62  n/a     .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .589:Dmax=  .212}
R0002:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-2           28.61     .110 No_date   29:14    9.11 .200     .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime= 12.00]
R0002:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-4           46.94     .126 No_date   29:02    7.06 .155     .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime= 12.00]
R0002:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:O-1R          63.72     .272 No_date   29:20    9.62  n/a     .000
                     +        1.0 02:O-2           28.61     .110 No_date   29:14    9.11  n/a     .000
                     +        1.0 02:O-4           46.94     .126 No_date   29:02    7.06  n/a     .000
                  SUM=        1.0 01:OKF-N        139.27     .504 No_date   29:15    8.65  n/a     .000
R0002:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:OKF-N        139.27     .504 No_date   29:15    8.65  n/a     .000
     [RDT= 1.00] out<-    1.0 01:OKF-NR       139.27     .502 No_date   29:20    8.65  n/a     .000
      [L/S/n=  210./ .810/.043]
      {Vmax=  .722:Dmax=  .437}
R0002:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-6           16.46     .042 No_date   28:47    6.40 .141     .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime= 12.00]
R0002:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:O-3           39.67     .402 No_date   28:28   11.03 .242     .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0002:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:O-5           60.63     .937 No_date   28:10   12.08 .265     .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0002:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:OKF-NR       139.27     .502 No_date   29:20    8.65  n/a     .000
                     +        1.0 02:O-3           39.67     .402 No_date   28:28   11.03  n/a     .000
                     +        1.0 02:O-5           60.63     .937 No_date   28:10   12.08  n/a     .000
                     +        1.0 02:O-6           16.46     .042 No_date   28:47    6.40  n/a     .000
                  SUM=        1.0 01:PT1          256.03    1.441 No_date   28:30    9.69  n/a     .000
R0002:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-7            5.28     .024 No_date   28:38    8.02 .176     .000
      [CN= 54.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
      [InterEventTime= 12.00]
R0002:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:PT1          256.03    1.441 No_date   28:30    9.69  n/a     .000
                     +        1.0 02:O-7            5.28     .024 No_date   28:38    8.02  n/a     .000
                  SUM=        1.0 01:FF           261.31    1.465 No_date   28:30    9.65  n/a     .000
R0002:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:FF           261.31    1.465 No_date   28:30    9.65  n/a     .000
     [RDT= 1.00] out<-    1.0 01:DRAIN1       261.31    1.446 No_date   28:36    9.65  n/a     .000
      [L/S/n=  302./1.000/.043]
      {Vmax=  .953:Dmax=  .543}
R0002:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D1             1.17     .026 No_date   28:12   15.66 .344     .000
      [CN= 84.0: N= 3.00: Tp=  .28]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime= 12.00]
R0002:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A1             2.50     .256 No_date   28:01   34.35 .755     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A1             2.50     .256 No_date   28:01   34.35  n/a     .000
                 out <=   1.0 01:A1-STR         2.50     .048 No_date   28:35   34.35  n/a     .000
            overflow <=   1.0 03:A1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4261E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-2            .59     .044 No_date   28:00   25.32 .556     .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-2            .59     .044 No_date   28:00   25.32  n/a     .000
                 out <=   1.0 01:ST2STR          .59     .041 No_date   28:02   25.32  n/a     .000
            overflow <=   1.0 03:ST2OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.7924E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-8           60.55     .405 No_date   29:05   12.46 .274     .000
      [CN= 69.0: N= 3.00: Tp= 1.00]
      [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
      [InterEventTime= 12.00]
R0002:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:O-8           60.55     .405 No_date   29:05   12.46  n/a     .000
     [RDT= 1.00] out<-    1.0 01:O8PIPE        60.55     .402 No_date   29:10   12.46  n/a     .000
      [L/S/n=  335./ .100/.013]
      {Vmax=  .842:Dmax=  .265}
      {HGTH= 1.20:WDTH= 1.80}
R0002:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                   1.0 02:DRAIN1       261.31    1.446 No_date   28:36    9.65  n/a     .000
                     +        1.0 02:D1             1.17     .026 No_date   28:12   15.66  n/a     .000
                     +        1.0 02:A1-STR         2.50     .048 No_date   28:35   34.35  n/a     .000
                     +        1.0 02:A1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:ST2STR          .59     .041 No_date   28:02   25.32  n/a     .000
                     +        1.0 02:ST2OVF          .00     .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:O8PIPE        60.55     .402 No_date   29:10   12.46  n/a     .000
                  SUM=        1.0 01:ST2-IN       326.12    1.834 No_date   28:39   10.41  n/a     .000
R0002:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A7             3.51     .348 No_date   28:02   34.35 .755     .000
```

```
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A7          3.51    .348 No_date   28:02   34.35  n/a    .000
               out <=     1.0 01:A7-STR      3.51    .067 No_date   28:36   34.35  n/a    .000
          overflow <=     1.0 03:A7-OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.6002E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-3         .71    .053 No_date   28:00   25.32 .556    .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-3         .71    .053 No_date   28:00   25.32  n/a    .000
               out <=     1.0 01:ST3STR       .71    .050 No_date   28:02   25.32  n/a    .000
          overflow <=     1.0 03:ST3OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.7947E-03  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:ST2-IN     326.12   1.834 No_date   28:39   10.41  n/a    .000
                  +       1.0 02:A7-STR      3.51    .067 No_date   28:36   34.35  n/a    .000
                  +       1.0 02:A7-OVF       .00    .000 No_date    0:00     .00  n/a    .000
                  +       1.0 02:ST3STR       .71    .050 No_date   28:02   25.32  n/a    .000
                  +       1.0 02:ST3OVF       .00    .000 No_date    0:00     .00  n/a    .000
               SUM=       1.0 01:PT2ST3     330.34   1.912 No_date   28:38   10.70  n/a    .000
R0002:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:PT2ST3     330.34   1.912 No_date   28:38   10.70  n/a    .000
     [RDT= 1.00] out<-    1.0 01:DRAIN2     330.34   1.821 No_date   28:57   10.70  n/a    .000
      [L/S/n=  592./ .230/.043]
      {Vmax=  .681:Dmax=  .785}
R0002:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D2          2.28    .021 No_date   29:07   15.66 .344    .000
      [CN= 84.0: N= 3.00: Tp=  .99]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0002:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A17        12.04   1.030 No_date   28:04   34.35 .755    .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A17        12.04   1.030 No_date   28:04   34.35  n/a    .000
               out <=     1.0 01:A17STR     12.04    .220 No_date   28:42   34.35  n/a    .000
          overflow <=     1.0 03:A17OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.2030E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-4         .35    .027 No_date   28:00   25.32 .556    .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-4         .35    .027 No_date   28:00   25.32  n/a    .000
               out <=     1.0 01:ST4STR       .35    .023 No_date   28:03   25.32  n/a    .000
          overflow <=     1.0 03:ST4OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.7487E-03  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A18         5.30    .500 No_date   28:03   34.35 .755    .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:A18         5.30    .500 No_date   28:03   34.35  n/a    .000
               out <=     1.0 01:A18STR      5.30    .099 No_date   28:38   34.35  n/a    .000
          overflow <=     1.0 03:A18OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.9042E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN2     330.34   1.821 No_date   28:57   10.70  n/a    .000
                  +       1.0 02:D2          2.28    .021 No_date   29:07   15.66  n/a    .000
                  +       1.0 02:A17STR     12.04    .220 No_date   28:42   34.35  n/a    .000
                  +       1.0 02:A17OVF       .00    .000 No_date    0:00     .00  n/a    .000
                  +       1.0 02:ST4STR       .35    .023 No_date   28:03   25.32  n/a    .000
                  +       1.0 02:ST4OVF       .00    .000 No_date    0:00     .00  n/a    .000
                  +       1.0 02:A18STR      5.30    .099 No_date   28:38   34.35  n/a    .000
                  +       1.0 02:A18OVF       .00    .000 No_date    0:00     .00  n/a    .000
               SUM=       1.0 01:PT3ST4     350.31   2.146 No_date   28:54   11.92  n/a    .000
R0002:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:PT3ST4     350.31   2.146 No_date   28:54   11.92  n/a    .000
     [RDT= 1.00] out<-    1.0 01:DRAIN3     350.31   2.088 No_date   29:08   11.92  n/a    .000
      [L/S/n=  525./ .230/.043]
      {Vmax=  .707:Dmax=  .833}
R0002:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D3          2.51    .033 No_date   28:46   17.40 .382    .000
      [CN= 86.0: N= 3.00: Tp=  .73]
      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
      [InterEventTime=  12.00]
R0002:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:C1          3.41    .339 No_date   28:02   34.35 .755    .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:C1          3.41    .339 No_date   28:02   34.35  n/a    .000
               out <=     1.0 01:C1-STR      3.41    .065 No_date   28:36   34.35  n/a    .000
          overflow <=     1.0 03:C1-OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.5806E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-5         .45    .034 No_date   28:00   25.32 .556    .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-5         .45    .034 No_date   28:00   25.32  n/a    .000
               out <=     1.0 01:ST5STR       .45    .031 No_date   28:03   25.32  n/a    .000
          overflow <=     1.0 03:ST5OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.7682E-03  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN3     350.31   2.088 No_date   29:08   11.92  n/a    .000
                  +       1.0 02:D3          2.51    .033 No_date   28:46   17.40  n/a    .000
                  +       1.0 02:C1-STR      3.41    .065 No_date   28:36   34.35  n/a    .000
                  +       1.0 02:C1-OVF       .00    .000 No_date    0:00     .00  n/a    .000
                  +       1.0 02:ST5STR       .45    .031 No_date   28:03   25.32  n/a    .000
                  +       1.0 02:ST5OVF       .00    .000 No_date    0:00     .00  n/a    .000
               SUM=       1.0 01:ST5-E      356.68   2.174 No_date   29:07   12.19  n/a    .000
R0002:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:STRAND      7.59    .471 No_date   28:13   33.47 .735    .000
      [XIMP=.64:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:STRAND      7.59    .471 No_date   28:13   33.47  n/a    .000
               out <=     1.0 01:S-POND      7.59    .032 No_date   30:14   33.47  n/a    .000
          overflow <=     1.0 03:S-OVF        .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.1805E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:ST5-E      356.68   2.174 No_date   29:07   12.19  n/a    .000
                  +       1.0 02:S-POND      7.59    .032 No_date   30:14   33.47  n/a    .000
                  +       1.0 02:S-OVF        .00    .000 No_date    0:00     .00  n/a    .000
               SUM=       1.0 01:SSAOUT     364.27   2.204 No_date   29:07   12.63  n/a    .000
R0002:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SSAOUT     364.27   2.204 No_date   29:07   12.63  n/a    .000
      fname :SSAOUT.0002
      remark:SSAOUT
R0002:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Area-A     66.75   3.902 No_date   28:13   32.66 .718    .000
      [XIMP=.64:TIMP=.80]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:Area-A     66.75   3.902 No_date   28:13   32.66  n/a    .000
      fname :Area-A.0002
      remark:SMWF-A Inflow
R0002:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Area-A     66.75   3.902 No_date   28:13   32.66  n/a    .000
               out <=     1.0 01:SWMF-A     66.75    .126 No_date   32:26   32.66  n/a    .000
          overflow <=     1.0 03:SWMAOV       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.1708E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SWMF-A     66.75    .126 No_date   32:26   32.66  n/a    .000
      fname :SWMF-A.0002
      remark:SMWF-A Outflow
R0002:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:SSAOUT     364.27   2.204 No_date   29:07   12.63  n/a    .000
                  +       1.0 02:SWMF-A     66.75    .126 No_date   32:26   32.66  n/a    .000
                  +       1.0 02:SWMAOV       .00    .000 No_date    0:00     .00  n/a    .000
               SUM=       1.0 01:PT4ST5     431.02   2.323 No_date   29:07   15.73  n/a    .000
R0002:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:C6          1.87    .196 No_date   28:01   34.35 .755    .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:C6          1.87    .196 No_date   28:01   34.35  n/a    .000
               out <=     1.0 01:C6-STR      1.87    .036 No_date   28:34   34.35  n/a    .000
          overflow <=     1.0 03:C6-OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.3218E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:C7          1.62    .171 No_date   28:01   34.35 .755    .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:C7          1.62    .171 No_date   28:01   34.35  n/a    .000
               out <=     1.0 01:C7-STR      1.62    .031 No_date   28:34   34.35  n/a    .000
          overflow <=     1.0 03:C7-OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.2774E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:ST-6         .41    .031 No_date   28:00   25.32 .556    .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:ST-6         .41    .031 No_date   28:00   25.32  n/a    .000
               out <=     1.0 01:ST6STR       .41    .028 No_date   28:03   25.32  n/a    .000
          overflow <=     1.0 03:ST6OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.7725E-03  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:PT4ST5     431.02   2.323 No_date   29:07   15.73  n/a    .000
                  +       1.0 02:C6-STR      1.87    .036 No_date   28:34   34.35  n/a    .000
                  +       1.0 02:C6-OVF       .00    .000 No_date    0:00     .00  n/a    .000
                  +       1.0 02:C7-STR      1.62    .031 No_date   28:34   34.35  n/a    .000
                  +       1.0 02:C7-OVF       .00    .000 No_date    0:00     .00  n/a    .000
                  +       1.0 02:ST6STR       .41    .028 No_date   28:03   25.32  n/a    .000
                  +       1.0 02:ST6OVF       .00    .000 No_date    0:00     .00  n/a    .000
               SUM=       1.0 01:PT5ST6     434.92   2.379 No_date   29:06   15.89  n/a    .000
R0002:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:PT5ST6     434.92   2.379 No_date   29:06   15.89  n/a    .000
     [RDT= 1.00] out<-    1.0 01:DRAIN4     434.92   2.319 No_date   29:17   15.89  n/a    .000
      [L/S/n=  324./ .100/.043]
      {Vmax=  .532:Dmax= 1.041}
R0002:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D4          1.73    .030 No_date   28:36   18.93 .416    .000
      [CN= 88.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
      [InterEventTime=  12.00]
R0002:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Area-B     24.04   2.028 No_date   28:04   31.71 .697    .000
      [XIMP=.62:TIMP=.77]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Area-B     24.04   2.028 No_date   28:04   31.71  n/a    .000
               out <=     1.0 01:SWMF-B     24.04    .169 No_date   29:09   31.71  n/a    .000
          overflow <=     1.0 03:SWMBOVF      .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.4926E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN4     434.92   2.319 No_date   29:17   15.89  n/a    .000
                  +       1.0 02:D4          1.73    .030 No_date   28:36   18.93  n/a    .000
                  +       1.0 02:SWMF-B     24.04    .169 No_date   29:09   31.71  n/a    .000
                  +       1.0 02:SWMBOVF      .00    .000 No_date    0:00     .00  n/a    .000
               SUM=       1.0 01:D4-EX      460.69   2.507 No_date   29:17   16.73  n/a    .000
R0002:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:D4-EX      460.69   2.507 No_date   29:17   16.73  n/a    .000
     [RDT= 1.00] out<-    1.0 01:DRAIN5     460.69   2.448 No_date   29:30   16.73  n/a    .000
      [L/S/n=  413./ .160/.033]
      {Vmax=  .501:Dmax=  .708}
R0002:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:D5          1.90    .026 No_date   28:43   17.40 .382    .000
      [CN= 86.0: N= 3.00: Tp=  .69]
      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
      [InterEventTime=  12.00]
R0002:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-13SDF     9.74    .182 No_date   28:22   16.95 .372    .000
      [CN= 81.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0002:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:O-13SDF     9.74    .182 No_date   28:22   16.95  n/a    .000
               out <=     1.0 01:SDF         9.74    .021 No_date   32:19   16.95  n/a    .000
          overflow <=     1.0 03:OVFSDF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.8320E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:DRAIN5     460.69   2.448 No_date   29:30   16.73  n/a    .000
                  +       1.0 02:D5          1.90    .026 No_date   28:43   17.40  n/a    .000
                  +       1.0 02:SDF         9.74    .021 No_date   32:19   16.95  n/a    .000
               SUM=       1.0 01:PT6MC      472.33   2.484 No_date   29:30   16.73  n/a    .000
R0002:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-15       10.67    .230 No_date   28:14   15.77 .347    .000
      [CN= 82.0: N= 3.00: Tp=  .30]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0002:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:PT6MC      472.33   2.484 No_date   29:30   16.73  n/a    .000
                  +       1.0 02:O-15       10.67    .230 No_date   28:14   15.77  n/a    .000
               SUM=       1.0 01:M-C        483.00   2.528 No_date   29:29   16.71  n/a    .000
R0002:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:M-C        483.00   2.528 No_date   29:29   16.71  n/a    .000
     [RDT= 1.00] out<-    1.0 01:O-14Ch     483.00   2.419 No_date   29:44   16.71  n/a    .000
      [L/S/n=  845./ .100/.033]
      {Vmax=  .756:Dmax= 1.160}
R0002:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:O-14        5.00    .181 No_date   28:04   15.77 .347    .000
      [CN= 82.0: N= 3.00: Tp=  .13]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0002:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:O-14Ch     483.00   2.419 No_date   29:44   16.71  n/a    .000
                  +       1.0 02:O-14        5.00    .181 No_date   28:04   15.77  n/a    .000
               SUM=       1.0 01:OKEEFE     488.00   2.434 No_date   29:44   16.70  n/a    .000
#*****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
R0002:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D2     18.67   1.588 No_date   28:02   32.20 .707    .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D3      6.79    .628 No_date   28:01   32.20 .707    .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_OK     53064.36  46.610 No_date   35:24   12.78  n/a    .000
                  +       1.0 02:OKEEFE     488.00   2.434 No_date   29:44   16.70  n/a    .000
                  +       1.0 02:S-1-D2     18.67   1.588 No_date   28:02   32.20  n/a    .000
                  +       1.0 02:S-1-D3      6.79    .628 No_date   28:01   32.20  n/a    .000
               SUM=       1.0 01:SN_OK    53577.82  47.451 No_date   34:58   12.82  n/a    .000
R0002:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_OK    53577.82  47.451 No_date   34:58   12.82  n/a    .000
      fname :SN_OK.0002
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0002:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_OK    53577.82  47.451 No_date   34:58   12.82  n/a    .000
     [RDT= 1.00] out<-    1.0 01:N_FO     53577.82  47.426 No_date   35:25   12.82  n/a    .000
      [L/S/n= 1183./ .076/.035]
      {Vmax=  .918:Dmax= 2.261}
#*****************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#*****************************************************************************
R0002:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FOSTER     325.44  13.697 No_date   28:15   28.56 .628    .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
R0002:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:FOSTER     325.44  13.697 No_date   28:15   28.56  n/a    .000
               out <=     1.0 01:P_FOS      325.44   3.894 No_date   29:12   28.56  n/a    .000
          overflow <=     1.0 03:FO-OVF       .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.3766E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0002:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:P_FOS      325.44   3.894 No_date   29:12   28.56  n/a    .000
                  +       1.0 02:FO-OVF       .00    .000 No_date    0:00     .00  n/a    .000
               SUM=       1.0 01:FOSTER-OUT 325.44   3.894 No_date   29:12   28.56  n/a    .000
#*****************************************************************************
R0002:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA 73.29   4.584 No_date   28:07   31.34 .689    .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
```

```
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA      73.29    4.584 No_date   28:07   31.34  n/a     .000
                  out <=    1.0 01:MS_P10          73.29    1.033 No_date   28:50   31.34  n/a     .000
             overflow <=    1.0 03:P10-OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7493E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-FO-D2        4.94     .383 No_date   28:01   28.56 .628     .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0002:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FOSTER-OUT     325.44    3.894 No_date   29:12   28.56  n/a     .000
                       +    1.0 02:S-1-FO-D2        4.94     .383 No_date   28:01   28.56  n/a     .000
                    SUM=    1.0 01:980            330.38    3.925 No_date   29:11   28.56  n/a     .000
R0002:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:980            330.38    3.925 No_date   29:11   28.56  n/a     .000
        fname :980.0002
        remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0002:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:980            330.38    3.925 No_date   29:11   28.56  n/a     .000
      [RDT= 1.00] out<-     1.0 01:980-out        330.38    3.801 No_date   29:21   28.56  n/a     .000
        [L/S/n=  460./ .043/.035]
        {Vmax=  .544:Dmax= 1.093}
R0002:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-FO-D1        5.11     .460 No_date   28:01   31.98 .703     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0002:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:980-out        330.38    3.801 No_date   29:21   28.56  n/a     .000
                       +    1.0 02:S-1-FO-D1        5.11     .460 No_date   28:01   31.98  n/a     .000
                    SUM=    1.0 01:520            335.49    3.832 No_date   29:21   28.62  n/a     .000
R0002:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:520            335.49    3.832 No_date   29:21   28.62  n/a     .000
        fname :520.0002
        remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0002:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:520            335.49    3.832 No_date   29:21   28.62  n/a     .000
      [RDT= 1.00] out<-     1.0 01:520-out        335.49    3.792 No_date   29:34   28.62  n/a     .000
        [L/S/n=  860./ .587/.035]
        {Vmax= 1.197:Dmax=  .521}
R0002:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-FO-F-D      14.96    1.215 No_date   28:02   31.98 .703     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0002:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D8           5.27     .475 No_date   28:02   23.32 .512     .000
        [XIMP=.32:TIMP=.65]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-A           75.88     .912 No_date   28:37   14.83 .326     .000
        [CN= 77.0: N= 3.00: Tp=  .62]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0002:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:W_CLAR_UND      35.65     .286 No_date   29:12   14.83 .326     .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0002:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_FO         53577.82   47.426 No_date   35:25   12.82  n/a     .000
                       +    1.0 02:520-out        335.49    3.792 No_date   29:34   28.62  n/a     .000
                       +    1.0 02:MS_P10          73.29    1.033 No_date   28:50   31.34  n/a     .000
                       +    1.0 02:P10-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:W_CLAR_UND      35.65     .286 No_date   29:12   14.83  n/a     .000
                       +    1.0 02:S-1-FO-F-D      14.96    1.215 No_date   28:02   31.98  n/a     .000
                       +    1.0 02:S-1-D8           5.27     .475 No_date   28:02   23.32  n/a     .000
                       +    1.0 02:S-1-A           75.88     .912 No_date   28:37   14.83  n/a     .000
                    SUM=    1.0 01:SN_FO        54118.36   49.014 No_date   34:32   12.96  n/a     .000
R0002:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_FO        54118.36   49.014 No_date   34:32   12.96  n/a     .000
        fname :SN_FO.0002
        remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0002:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_FO        54118.36   49.014 No_date   34:32   12.96  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:N_CE         54118.36   49.006 No_date   34:39   12.96  n/a     .000
        [L/S/n=  159./ .082/.035]
        {Vmax= 1.113:Dmax= 2.623}
#******************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#******************************************************************************
R0002:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-B           55.36     .825 No_date   28:24   14.83 .326     .000
        [CN= 77.0: N= 3.00: Tp=  .45]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0002:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D1          21.67    1.802 No_date   28:02   32.20 .707     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D4           3.28     .322 No_date   28:00   32.20 .707     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D5          12.84    1.124 No_date   28:02   32.20 .707     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D6           1.75     .176 No_date   28:00   32.20 .707     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D7           2.03     .204 No_date   28:00   32.20 .707     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#******************************************************************************
R0002:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ        1.77     .141 No_date   28:00   27.78 .610     .000
        [XIMP=.46:TIMP=.59]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0002:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ        1.77     .141 No_date   28:00   27.78  n/a     .000
                  out <=    1.0 01:W_CLAR_Min       1.77     .141 No_date   28:00   27.78  n/a     .000
             overflow <=    1.0 03:W_CLAR_Mj         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.6675E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL     119.40    7.746 No_date   28:06   31.34 .689     .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:W_CLAR_ALL     119.40    7.746 No_date   28:06   31.34  n/a     .000
                       +    1.0 02:W_CLAR_Mj         .00     .000 No_date    0:00     .00  n/a     .000
                    SUM=    1.0 01:W_CLAR         119.40    7.746 No_date   28:06   31.34  n/a     .000
R0002:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:W_CLAR         119.40    7.746 No_date   28:06   31.34  n/a     .000
        fname :W_CLAR.0002
        remark:Total Flows to West Clarke
#******************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#******************************************************************************
R0002:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:W_CLAR         119.40    7.746 No_date   28:06   31.34  n/a     .000
                  out <=    1.0 01:MS_P2          119.40     .816 No_date   29:25   31.34  n/a     .000
             overflow <=    1.0 03:P2-OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2096E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#******************************************************************************
R0002:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_CE         54118.36   49.006 No_date   34:39   12.96  n/a     .000
                       +    1.0 02:S-1-D4           3.28     .322 No_date   28:00   32.20  n/a     .000
                       +    1.0 02:S-1-D5          12.84    1.124 No_date   28:02   32.20  n/a     .000
                       +    1.0 02:MS_P2          119.40     .816 No_date   29:25   31.34  n/a     .000
                       +    1.0 02:P2-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                    SUM=    1.0 01:SN_CE        54253.88   49.530 No_date   34:38   13.00  n/a     .000
R0002:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_CE        54253.88   49.530 No_date   34:38   13.00  n/a     .000
        fname :SN_CE.0002
        remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0002:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_CE        54253.88   49.530 No_date   34:38   13.00  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:5737         54253.88   48.266 No_date   37:41   13.00  n/a     .000
        [L/S/n=  270./ .018/.035]
        {Vmax=  .610:Dmax= 3.450}
R0002:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:5737         54253.88   48.266 No_date   37:41   13.00  n/a     .000
                       +    1.0 02:S-1-D1          21.67    1.802 No_date   28:02   32.20  n/a     .000
                       +    1.0 02:S-1-D6           1.75     .176 No_date   28:00   32.20  n/a     .000
                       +    1.0 02:S-1-D7           2.03     .204 No_date   28:00   32.20  n/a     .000
                    SUM=    1.0 01:5002         54279.33   48.297 No_date   37:41   13.01  n/a     .000
R0002:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:5002         54279.33   48.297 No_date   37:41   13.01  n/a     .000
        fname :5002.0002
        remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0002:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:5002         54279.33   48.297 No_date   37:41   13.01  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_WCa        54279.33   48.300 No_date   37:38   13.01  n/a     .000
        [L/S/n=  245./ .095/.035]
        {Vmax=  .958:Dmax= 2.005}
R0002:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:N_WCa        54279.33   48.300 No_date   37:38   13.01  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_WCb        54279.33   48.303 No_date   37:37   13.01  n/a     .000
        [L/S/n=  245./ .095/.035]
        {Vmax=  .958:Dmax= 2.005}
R0002:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:N_WCb        54279.33   48.303 No_date   37:37   13.01  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_WC         54279.33   48.466 No_date   39:38   13.01  n/a     .000
        [L/S/n=  245./ .095/.035]
        {Vmax=  .958:Dmax= 2.005}
#******************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0002:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:N_WC         54279.33   48.466 No_date   39:38   13.01  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_KB         54279.33   48.418 No_date   39:39   13.01  n/a     .000
        [L/S/n= 1020./ .050/.035]
        {Vmax=  .847:Dmax= 2.418}
#******************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#******************************************************************************
#******************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#******************************************************************************
R0002:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-01A          40.82    1.627 No_date   28:18   14.35 .315     .000
        [XIMP=.10:TIMP=.40]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-01A          40.82    1.627 No_date   28:18   14.35  n/a     .000
      Major System  /       1.0 02:KB-01A-MJ         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-01A-MN       40.82    1.627 No_date   28:18   14.35  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-01A-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:KB-01A-MN       40.82    1.627 No_date   28:18   14.35  n/a     .000
                    SUM=    1.0 01:KB-01A-S        40.82    1.627 No_date   28:18   14.35  n/a     .000
R0002:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-01B          31.10    1.062 No_date   28:08   16.28 .358     .000
        [XIMP=.19:TIMP=.38]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-01B          31.10    1.062 No_date   28:08   16.28  n/a     .000
      Major System  /       1.0 02:KB-01B-MJ         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-01B-MN       31.10    1.062 No_date   28:08   16.28  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-01B-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:KB-01B-MN       31.10    1.062 No_date   28:08   16.28  n/a     .000
                    SUM=    1.0 01:KB-01B-S        31.10    1.062 No_date   28:08   16.28  n/a     .000
R0002:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-01C          13.78     .776 No_date   28:06   17.09 .375     .000
        [XIMP=.20:TIMP=.41]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-01C          13.78     .776 No_date   28:06   17.09  n/a     .000
      Major System  /       1.0 02:KB-01C-MJ         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-01C-MN       13.78     .776 No_date   28:06   17.09  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-01C-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:KB-01C-MN       13.78     .776 No_date   28:06   17.09  n/a     .000
                    SUM=    1.0 01:KB-01C-S        13.78     .776 No_date   28:06   17.09  n/a     .000
R0002:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-03           84.78    3.788 No_date   28:12   16.73 .368     .000
        [XIMP=.20:TIMP=.39]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-03           84.78    3.788 No_date   28:12   16.73  n/a     .000
      Major System  /       1.0 02:KB-03-MJ          .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-03-MN        84.78    3.788 No_date   28:12   16.73  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-03-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:KB-03-MN        84.78    3.788 No_date   28:12   16.73  n/a     .000
                    SUM=    1.0 01:KB-03-S         84.78    3.788 No_date   28:12   16.73  n/a     .000
R0002:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-04            6.95     .792 No_date   28:01   38.80 .853     .000
        [XIMP=.85:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-04            6.95     .792 No_date   28:01   38.80  n/a     .000
      Major System  /       1.0 02:KB-04-MJ          .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-04-MN         6.95     .503 No_date   27:53   39.02  n/a     .000
      {MJSysSto=.1541E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-04-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:KB-04-MN         6.95     .503 No_date   27:53   39.02  n/a     .000
                    SUM=    1.0 01:KB-04-S          6.95     .503 No_date   27:53   39.02  n/a     .000
R0002:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-05            5.19     .653 No_date   28:01   41.29 .907     .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-06           12.93    1.683 No_date   28:00   39.68 .872     .000
        [XIMP=.87:TIMP=.87]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-06           12.93    1.683 No_date   28:00   39.68  n/a     .000
      Major System  /       1.0 02:KB-06-MJ          .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-06-MN        12.93    1.683 No_date   28:00   39.68  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-06-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:KB-06-MN        12.93    1.683 No_date   28:00   39.68  n/a     .000
                    SUM=    1.0 01:KB-06-S         12.93    1.683 No_date   28:00   39.68  n/a     .000
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R0002:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-11           4.03      .425 No_date   28:00   32.17 .707     .000
       [XIMP=.68:TIMP=.68]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-11           4.03      .425 No_date   28:00   32.17  n/a     .000
      Major System   /     1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-11-MN        4.03      .425 No_date   28:00   32.17  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-11-MN        4.03      .425 No_date   28:00   32.17  n/a     .000
                   SUM=    1.0 01:KB-11-S         4.03      .425 No_date   28:00   32.17  n/a     .000
R0002:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S1              4.99      .689 No_date   28:00   41.29 .907     .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-15           2.15      .241 No_date   28:00   37.11 .815     .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01A-S       40.82     1.627 No_date   28:18   14.35  n/a     .000
                      +    1.0 02:KB-01B-S       31.10     1.062 No_date   28:08   16.28  n/a     .000
                      +    1.0 02:KB-01C-S       13.78      .776 No_date   28:06   17.09  n/a     .000
                      +    1.0 02:KB-03-S        84.78     3.788 No_date   28:12   16.73  n/a     .000
                      +    1.0 02:KB-04-S         6.95      .503 No_date   27:53   39.02  n/a     .000
                      +    1.0 02:KB-05           5.19      .653 No_date   28:01   41.29  n/a     .000
                      +    1.0 02:KB-06-S        12.93     1.683 No_date   28:00   39.68  n/a     .000
                      +    1.0 02:KB-11-S         4.03      .425 No_date   28:00   32.17  n/a     .000
                      +    1.0 02:KB-15           2.15      .241 No_date   28:00   37.11  n/a     .000
                      +    1.0 02:S1              4.99      .689 No_date   28:00   41.29  n/a     .000
                   SUM=    1.0 01:KB-P1         206.72     9.491 No_date   28:02   20.13  n/a     .000
R0002:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P1         206.72     9.491 No_date   28:02   20.13  n/a     .000
                 out <=    1.0 01:KB-P1R        206.72     8.405 No_date   28:13   20.13  n/a     .000
            overflow <=    1.0 03:KB-P1ovf         .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3779E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P1R        206.72     8.405 No_date   28:13   20.13  n/a     .000
                      +    1.0 02:KB-P1ovf         .00      .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:KB-Pond1      206.72     8.405 No_date   28:13   20.13  n/a     .000
R0002:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond1      206.72     8.405 No_date   28:13   20.13  n/a     .000
       fname :KB-Pond1.0002
       remark:Total Flows at KB first pond
R0002:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-07          10.86     1.337 No_date   28:00   39.32 .864     .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-07          10.86     1.337 No_date   28:00   39.32  n/a     .000
      Major System   /     1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-07-MN       10.86     1.337 No_date   28:00   39.32  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-07-MN       10.86     1.337 No_date   28:00   39.32  n/a     .000
                   SUM=    1.0 01:KB-07-S        10.86     1.337 No_date   28:00   39.32  n/a     .000
R0002:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-08           6.61      .651 No_date   28:00   30.82 .677     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-08           6.61      .651 No_date   28:00   30.82  n/a     .000
      Major System   /     1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-08-MN        6.61      .651 No_date   28:00   30.82  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-08-MN        6.61      .651 No_date   28:00   30.82  n/a     .000
                   SUM=    1.0 01:KB-08-S         6.61      .651 No_date   28:00   30.82  n/a     .000
R0002:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-09           2.60      .344 No_date   28:00   38.64 .849     .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_1         2.37      .314 No_date   28:00   38.64 .849     .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_2         1.14      .153 No_date   28:00   38.64 .849     .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-12           4.86      .581 No_date   28:00   36.37 .799     .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-12           4.86      .581 No_date   28:00   36.37  n/a     .000
      Major System   /     1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-12-MN        4.86      .581 No_date   28:00   36.37  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-12-MN        4.86      .581 No_date   28:00   36.37  n/a     .000
                   SUM=    1.0 01:KB-12-S         4.86      .581 No_date   28:00   36.37  n/a     .000
R0002:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-13          10.19      .970 No_date   28:00   30.82 .677     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-13          10.19      .970 No_date   28:00   30.82  n/a     .000
      Major System   /     1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-13-MN       10.19      .970 No_date   28:00   30.82  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-13-MN       10.19      .970 No_date   28:00   30.82  n/a     .000
                   SUM=    1.0 01:KB-13-S        10.19      .970 No_date   28:00   30.82  n/a     .000
R0002:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-14           5.47      .543 No_date   28:00   30.82 .677     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-14           5.47      .543 No_date   28:00   30.82  n/a     .000
      Major System   /     1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-14-MN        5.47      .543 No_date   28:00   30.82  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-14-MN        5.47      .543 No_date   28:00   30.82  n/a     .000
                   SUM=    1.0 01:KB-14-S         5.47      .543 No_date   28:00   30.82  n/a     .000
R0002:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_2         3.42      .337 No_date   28:01   33.97 .746     .000
       [XIMP=.71:TIMP=.71]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond1      206.72     8.405 No_date   28:13   20.13  n/a     .000
                      +    1.0 02:KB-07-S        10.86     1.337 No_date   28:00   39.32  n/a     .000
                      +    1.0 02:KB-08-S         6.61      .651 No_date   28:00   30.82  n/a     .000
                      +    1.0 02:KB-09           2.60      .344 No_date   28:00   38.64  n/a     .000
                      +    1.0 02:KB-10_1         2.37      .314 No_date   28:00   38.64  n/a     .000
                      +    1.0 02:KB-10_2         1.14      .153 No_date   28:00   38.64  n/a     .000
                      +    1.0 02:KB-12-S         4.86      .581 No_date   28:00   36.37  n/a     .000
                      +    1.0 02:KB-13-S        10.19      .970 No_date   28:00   30.82  n/a     .000
                      +    1.0 02:KB-14-S         5.47      .543 No_date   28:00   30.82  n/a     .000
                      +    1.0 02:KB-16_2         3.42      .337 No_date   28:01   33.97  n/a     .000
                   SUM=    1.0 01:KB-P2         254.24    11.772 No_date   28:02   22.82  n/a     .000
R0002:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P2         254.24    11.772 No_date   28:02   22.82  n/a     .000
                 out <=    1.0 01:KB-P2R        254.24     9.930 No_date   28:12   22.82  n/a     .000
            overflow <=    1.0 03:KB-P2ovf         .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.4507E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P2R        254.24     9.930 No_date   28:12   22.82  n/a     .000
                      +    1.0 02:KB-P2ovf         .00      .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:KB-Pond2      254.24     9.930 No_date   28:12   22.82  n/a     .000
R0002:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond2      254.24     9.930 No_date   28:12   22.82  n/a     .000
       fname :KB-Pond2.0002
       remark:Total Flows at KB second pond
R0002:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_1         2.80      .293 No_date   28:01   35.54 .781     .000
       [XIMP=.75:TIMP=.75]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond2      254.24     9.930 No_date   28:12   22.82  n/a     .000
                      +    1.0 02:KB-16_1         2.80      .293 No_date   28:01   35.54  n/a     .000
                   SUM=    1.0 01:KB-P3         257.04    10.049 No_date   28:11   22.96  n/a     .000
R0002:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P3         257.04    10.049 No_date   28:11   22.96  n/a     .000
                 out <=    1.0 01:KB-P3R         18.54      .051 No_date   18:09   22.96  n/a     .000
            overflow <=    1.0 03:KB-P3ovf      238.50     9.997 No_date   28:11   22.96  n/a     .000
      {MxStoUsed=.2001E-02  m3, TotOvfVol=.5477E+01  m3, N-Ovf=    1, TotDurOvf=   22.hrs}
R0002:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P3R         18.54      .051 No_date   18:09   22.96  n/a     .000
                      +    1.0 02:KB-P3ovf      238.50     9.997 No_date   28:11   22.96  n/a     .000
                   SUM=    1.0 01:KB-Pond3      257.04    10.048 No_date   28:11   22.96  n/a     .000
R0002:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond3      257.04    10.048 No_date   28:11   22.96  n/a     .000
       fname :KB-Pond3.0002
       remark:Total Flows at KB third pond
#***************************************************************************
#     EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#     - TO FRASER-CLARKE DRAIN
#***************************************************************************
R0002:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-01           8.03      .575 No_date   28:01   23.89 .525     .000
       [XIMP=.47:TIMP=.47]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-01           8.03      .575 No_date   28:01   23.89  n/a     .000
      Major System   /     1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:FC-01-MN        8.03      .575 No_date   28:01   23.89  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:FC-01-MN        8.03      .575 No_date   28:01   23.89  n/a     .000
                   SUM=    1.0 01:FC-01-S         8.03      .575 No_date   28:01   23.89  n/a     .000
R0002:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-02          16.05     1.936 No_date   28:01   41.29 .907     .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-02          16.05     1.936 No_date   28:01   41.29  n/a     .000
      Major System   /     1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:FC-02-MN       16.05     1.159 No_date   27:52   41.31  n/a     .000
       {MjSysSto=.4641E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:FC-02-MN       16.05     1.159 No_date   27:52   41.31  n/a     .000
                   SUM=    1.0 01:FC-02-S        16.05     1.159 No_date   27:52   41.31  n/a     .000
R0002:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-03           7.37      .687 No_date   28:01   30.32 .666     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-03           7.37      .687 No_date   28:01   30.32  n/a     .000
      Major System   /     1.0 02:FC-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:FC-03-MN        7.37      .358 No_date   27:49   30.49  n/a     .000
       {MjSysSto=.2043E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:FC-03-MN        7.37      .358 No_date   27:49   30.49  n/a     .000
                   SUM=    1.0 01:FC-03-S         7.37      .358 No_date   27:49   30.49  n/a     .000
R0002:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-04          12.87     1.148 No_date   28:01   30.32 .666     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-04          12.87     1.148 No_date   28:01   30.32  n/a     .000
      Major System   /     1.0 02:FC-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:FC-04-MN       12.87      .741 No_date   27:53   30.44  n/a     .000
       {MjSysSto=.2134E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:FC-04-MN       12.87      .741 No_date   27:53   30.44  n/a     .000
                   SUM=    1.0 01:FC-04-S        12.87      .741 No_date   27:53   30.44  n/a     .000
#***************************************************************************
#     PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#     - TO JOCK RIVER
#***************************************************************************
R0002:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-01           8.24      .764 No_date   28:01   30.32 .666     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-01           8.24      .764 No_date   28:01   30.32  n/a     .000
      Major System   /     1.0 02:JR-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:JR-01-MN        8.24      .563 No_date   28:13   30.43  n/a     .000
       {MjSysSto=.8257E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:JR-01-MN        8.24      .563 No_date   27:55   30.43  n/a     .000
                   SUM=    1.0 01:JR-01-S         8.24      .563 No_date   27:55   30.43  n/a     .000
R0002:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-02           1.59      .162 No_date   28:00   30.32 .666     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-02           1.59      .162 No_date   28:00   30.32  n/a     .000
      Major System   /     1.0 02:JR-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:JR-02-MN        1.59      .153 No_date   27:58   30.45  n/a     .000
       {MjSysSto=.1236E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:JR-02-MN        1.59      .153 No_date   27:58   30.45  n/a     .000
                   SUM=    1.0 01:JR-02-S         1.59      .153 No_date   27:58   30.45  n/a     .000
#***************************************************************************
#     Catchment FRASER
#     - To Fraser-Clarke drain (north of the Jock)
#     - Developed land with assumed 43% imp.
#     - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#     - 2020-12-17 All Fraser is undeveloped (Nashyd)
#***************************************************************************
R0002:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FRASER-DRN     13.65      .212 No_date   28:22   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime= 12.00]
R0002:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FRASER-D       21.61     1.710 No_date   28:02   30.87 .678     .000
       [XIMP=.58:TIMP=.58]
       [LOSS= 2 :CN= 80.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 26.32: SMAX=175.50: SK= .010]
R0002:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FRASER-D       21.61     1.710 No_date   28:02   30.87  n/a     .000
      Major System   /     1.0 02:FRASER-J         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:FRASER-N       21.61     1.710 No_date   28:02   30.87  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FRASER-J         .00      .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:FRASER-N       21.61     1.710 No_date   28:02   30.87  n/a     .000
                   SUM=    1.0 01:FRASER-S       21.61     1.710 No_date   28:02   30.87  n/a     .000
R0002:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond3      257.04    10.048 No_date   28:11   22.96  n/a     .000
                      +    1.0 02:S-1-B          55.36      .825 No_date   28:24   14.83  n/a     .000
                      +    1.0 02:FRASER-DRN     13.65      .212 No_date   28:22   14.83  n/a     .000
                      +    1.0 02:FRASER-S       21.61     1.710 No_date   28:02   30.87  n/a     .000
                      +    1.0 02:N_KB        54279.33    48.418 No_date   39:39   13.01  n/a     .000
                      +    1.0 02:FC-01-S         8.03      .575 No_date   28:01   23.89  n/a     .000
                      +    1.0 02:FC-02-S        16.05     1.159 No_date   27:52   41.31  n/a     .000
                      +    1.0 02:FC-03-S         7.37      .358 No_date   27:49   30.49  n/a     .000
                   SUM=    1.0 01:4241        54658.44    48.702 No_date   39:39   13.08  n/a     .000
R0002:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:4241        54658.44    48.702 No_date   39:39   13.08  n/a     .000
       fname :4241.0002
       remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0002:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:4241        54658.44    48.702 No_date   39:39   13.08  n/a     .000
      [RDT= 1.00] out<-    1.0 01:4241-out    54658.44    48.528 No_date   39:29   13.08  n/a     .000
       [L/S/n=  294./ .109/.035]
       {Vmax=  .960:Dmax= 1.541}
R0002:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:4241-out    54658.44    48.528 No_date   39:29   13.08  n/a     .000
                      +    1.0 02:FC-04-S        12.87      .741 No_date   27:53   30.44  n/a     .000
                      +    1.0 02:JR-01-S         8.24      .563 No_date   27:55   30.43  n/a     .000
                      +    1.0 02:JR-02-S         1.59      .153 No_date   27:58   30.45  n/a     .000
                   SUM=    1.0 01:SN_KB       54681.13    48.551 No_date   39:29   13.09  n/a     .000
R0002:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
```

```
    SAVE HYD              1.0 01:SN_KB       54681.13   48.551 No_date   39:29   13.09  n/a     .000
      fname :SN_KB.0002
      remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0002:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_KB       54681.13   48.551 No_date   39:29   13.09  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_TO        54681.13   48.522 No_date   37:57   13.09  n/a     .000
      [L/S/n=  608./ .247/.035]
      {Vmax= 1.295:Dmax= 1.131}
#*****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#*****************************************************************************
R0002:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Greenbank      36.60    2.954 No_date   28:02   32.54 .715     .000
      [XIMP=.64:TIMP=.68]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Greenbank      36.60    2.954 No_date   28:02   32.54  n/a     .000
               out <=     1.0 01:GreenB_MN      36.60     .569 No_date   28:38   32.54  n/a     .000
          overflow <=     1.0 03:GreenB_MJ        .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6052E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_TO        54681.13   48.522 No_date   37:57   13.09  n/a     .000
                    +     1.0 02:GreenB_MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:GreenB_MN      36.60     .569 No_date   28:38   32.54  n/a     .000
                 SUM=     1.0 01:GreenB      54717.73   48.599 No_date   37:56   13.10  n/a     .000
R0002:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:GreenB      54717.73   48.599 No_date   37:56   13.10  n/a     .000
      fname :GreenB.0002
      remark:Total Flows at Greenbank Drain
#*****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#*****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0002:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_MN2        2.10     .179 No_date   28:00   28.91 .635     .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_MN3         .12     .011 No_date   28:00   28.91 .635     .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_MJ        30.23    2.154 No_date   28:03   29.64 .651     .000
      [XIMP=.52:TIMP=.64]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_ALL      112.91    6.553 No_date   28:06   28.70 .631     .000
      [XIMP=.52:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_P          3.06     .295 No_date   28:00   31.76 .698     .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0002:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:TODD_MJ        30.23    2.154 No_date   28:03   29.64  n/a     .000
 *             out <=     1.0 01:TODD_MJn       30.23    2.154 No_date   28:03   29.64  n/a     .000
          overflow <=     1.0 03:TODD_MJj         .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6551E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0002:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:TODD_MN2        2.10     .179 No_date   28:00   28.91  n/a     .000
               out <=     1.0 01:TODD_MN2n       2.10     .179 No_date   28:00   28.91  n/a     .000
          overflow <=     1.0 03:TODD_MN2j        .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6761E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:TODD_MN3         .12     .011 No_date   28:00   28.91  n/a     .000
               out <=     1.0 01:TODD_MN3n        .12     .010 No_date   28:00   28.91  n/a     .000
          overflow <=     1.0 03:TODD_MN3j        .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6566E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A2             25.50    1.427 No_date   28:04   25.60 .563     .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A2             25.50    1.427 No_date   28:04   25.60  n/a     .000
     Major System   /     1.0 02:A2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A2-MN          25.50    1.427 No_date   28:04   25.60  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:TODD_MN2n       2.10     .179 No_date   28:00   28.91  n/a     .000
                    +     1.0 02:TODD_MN3n        .12     .010 No_date   28:00   28.91  n/a     .000
                    +     1.0 02:TODD_MJj         .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:TODD_P          3.06     .295 No_date   28:00   31.77  n/a     .000
                    +     1.0 02:TODD_ALL      112.91    6.553 No_date   28:06   28.70  n/a     .000
                    +     1.0 02:W_CLAR_MJn      1.77     .141 No_date   28:00   27.78  n/a     .000
                 SUM=     1.0 01:TODD          119.95    6.882 No_date   28:05   28.77  n/a     .000
R0002:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:TODD          119.95    6.882 No_date   28:05   28.77  n/a     .000
      fname :TODD.0002
      remark:Total Flows at Todd Drain
#*****************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#*****************************************************************************
R0002:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:TODD          119.95    6.882 No_date   28:05   28.77  n/a     .000
               out <=     1.0 01:MS_P3         119.95    1.033 No_date   29:08   28.76  n/a     .000
          overflow <=     1.0 03:P3-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2183E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:GreenB      54717.73   48.599 No_date   37:56   13.10  n/a     .000
                    +     1.0 02:MS_P3         119.95    1.033 No_date   29:08   28.76  n/a     .000
                    +     1.0 02:P3-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:TODD_MN2j        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:SN_TO       54837.69   48.739 No_date   37:56   13.13  n/a     .000
R0002:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_TO       54837.69   48.739 No_date   37:56   13.13  n/a     .000
      fname :SN_TO.0002
      remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0002:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_TO       54837.69   48.739 No_date   37:56   13.13  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:N_TO        54837.69   48.720 No_date   38:09   13.13  n/a     .000
      [L/S/n=  280./ .050/.045]
      {Vmax=  .727:Dmax= 2.123}
R0002:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:N_TO        54837.69   48.720 No_date   38:09   13.13  n/a     .000
      fname :N_TO.0002
      remark:Total inflows at Station 2462
#*****************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#*****************************************************************************
R0002:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:corr1          15.87    1.352 No_date   28:02   31.77 .698     .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:corr1          15.87    1.352 No_date   28:02   31.77  n/a     .000
     Major System   /     1.0 02:corr1-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:corr1-MN       15.87    1.352 No_date   28:02   31.77  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:corr2          12.47     .100 No_date   29:12   14.83 .326     .000
      [CN= 77.0: N= 3.00:  Tp= 1.10]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A1-Corrig      15.75     .982 No_date   28:02   25.60 .563     .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A1-Corrig      15.75     .982 No_date   28:02   25.60  n/a     .000
     Major System   /     1.0 02:A1-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A1-MN          15.75     .982 No_date   28:02   25.60  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:B1              2.77     .033 No_date   28:09    9.64 .212     .000
      [CN= 56.0: N= 3.00:  Tp=  .23]
      [IaREC= 4.00:  SMIN= 79.69:  SMAX=531.24:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A4              1.27     .116 No_date   28:01   32.20 .707     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A4              1.27     .116 No_date   28:01   32.20  n/a     .000
     Major System   /     1.0 02:A4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A4-MN           1.27     .116 No_date   28:01   32.20  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A1-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A1-MN          15.75     .982 No_date   28:02   25.60  n/a     .000
                    +     1.0 02:corr1-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:corr1-MN       15.87    1.352 No_date   28:02   31.77  n/a     .000
                    +     1.0 02:corr2          12.47     .100 No_date   29:12   14.83  n/a     .000
                    +     1.0 02:B1              2.77     .033 No_date   28:09    9.64  n/a     .000
                    +     1.0 02:A4-MN           1.27     .116 No_date   28:01   32.20  n/a     .000
                 SUM=     1.0 01:MH101          48.13    2.497 No_date   28:02   24.10  n/a     .000
R0002:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH101          48.13    2.497 No_date   28:02   24.10  n/a     .000
      fname :MH101.0002
      remark:Total Flows at MH101
R0002:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH101          48.13    2.497 No_date   28:02   24.10  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:101-102        48.13    2.412 No_date   28:03   24.10  n/a     .000
      [L/S/n=  368./ .540/.013]
      {Vmax= 2.789:Dmax=  .935}
      [Din= 1.05:Dused= 1.14}
R0002:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A2-MN          25.50    1.427 No_date   28:04   25.60  n/a     .000
                    +     1.0 02:101-102        48.13    2.412 No_date   28:03   24.10  n/a     .000
                 SUM=     1.0 01:MH102          73.63    3.837 No_date   28:03   24.62  n/a     .000
R0002:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH102          73.63    3.837 No_date   28:03   24.62  n/a     .000
      fname :MH102.0002
      remark:Total Flows at MH102
R0002:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A5              1.60     .155 No_date   28:01   34.21 .752     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A5              1.60     .155 No_date   28:01   34.21  n/a     .000
                 SUM=     1.0 01:A5T             1.60     .155 No_date   28:01   34.21  n/a     .000
R0002:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A5T             1.60     .155 No_date   28:01   34.21  n/a     .000
     Major System   /     1.0 02:A5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A5-MN           1.60     .155 No_date   28:01   34.21  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH102          73.63    3.837 No_date   28:03   24.62  n/a     .000
 *   [RDT= 1.00] out<-    1.0 01:102-103        73.63    3.600 No_date   28:05   24.62  n/a     .000
      [L/S/n=  504./ .280/.013]
      {Vmax= 2.428:Dmax= 1.243}
      [Din= 1.50:Dused= 1.51}
R0002:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:102-103        73.63    3.600 No_date   28:05   24.62  n/a     .000
                    +     1.0 02:A5-MN           1.60     .155 No_date   28:01   34.21  n/a     .000
                 SUM=     1.0 01:MH103          75.23    3.728 No_date   28:05   24.82  n/a     .000
R0002:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH103          75.23    3.728 No_date   28:05   24.82  n/a     .000
      fname :MH103.0002
      remark:Total Flows at MH103
R0002:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH103          75.23    3.728 No_date   28:05   24.82  n/a     .000
     [RDT= 1.00] out<-    1.0 01:103-104        75.23    3.629 No_date   28:07   24.82  n/a     .000
      [L/S/n=  438./ .460/.013]
      {Vmax= 3.024:Dmax=  .924}
      [Din= 1.65:Dused= 1.65}
R0002:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A6              1.56     .152 No_date   28:01   34.21 .752     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A6              1.56     .152 No_date   28:01   34.21  n/a     .000
                 SUM=     1.0 01:A6T             1.56     .152 No_date   28:01   34.21  n/a     .000
R0002:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A6T             1.56     .152 No_date   28:01   34.21  n/a     .000
     Major System   /     1.0 02:A6-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:A6-MN           1.56     .152 No_date   28:01   34.21  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A6-MN           1.56     .152 No_date   28:01   34.21  n/a     .000
                    +     1.0 02:103-104        75.23    3.629 No_date   28:07   24.82  n/a     .000
                    +     1.0 02:TODD_MJn       30.23    2.154 No_date   28:03   29.64  n/a     .000
                 SUM=     1.0 01:MH104         107.02    5.765 No_date   28:05   26.32  n/a     .000
R0002:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH104         107.02    5.765 No_date   28:05   26.32  n/a     .000
      fname :MH104.0002
      remark:Total Flows at MH104
R0002:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B2             12.31     .731 No_date   28:03   25.66 .564     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B2             12.31     .731 No_date   28:03   25.66  n/a     .000
     Major System   /     1.0 02:B2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:B2-MN          12.31     .731 No_date   28:03   25.66  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:B2-MN          12.31     .731 No_date   28:03   25.66  n/a     .000
     [RDT= 1.00] out<-    1.0 01:315-333        12.31     .675 No_date   28:04   25.66  n/a     .000
      [L/S/n=  254./ .100/.013]
      {Vmax= 1.136:Dmax=  .665}
      [Din= 1.20:Dused= 1.20}
R0002:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B3              5.59     .346 No_date   28:02   25.66 .564     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=    .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B3              5.59     .346 No_date   28:02   25.66  n/a     .000
     Major System   /     1.0 02:B3-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \     1.0 03:B3-MN           5.59     .346 No_date   28:02   25.66  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B3-MN           5.59     .346 No_date   28:02   25.66  n/a     .000
                    +     1.0 02:315-333        12.31     .675 No_date   28:04   25.66  n/a     .000
                 SUM=     1.0 01:MH333          17.90    1.009 No_date   28:04   25.66  n/a     .000
R0002:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH333          17.90    1.009 No_date   28:04   25.66  n/a     .000
      fname :MH333.0002
      remark:Total Flows at MH333
R0002:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH333          17.90    1.009 No_date   28:04   25.66  n/a     .000
     [RDT= 1.00] out<-    1.0 01:333-335        17.90     .937 No_date   28:05   25.66  n/a     .000
      [L/S/n=  251./ .100/.013]
      {Vmax= 1.217:Dmax=  .826}
      [Din= 1.20:Dused= 1.20}
R0002:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:333-335        17.90     .937 No_date   28:05   25.66  n/a     .000
     [RDT= 1.00] out<-    1.0 01:335-338        17.90     .888 No_date   28:07   25.66  n/a     .000
      [L/S/n=  185./ .100/.013]
      {Vmax= 1.199:Dmax=  .782}
      [Din= 1.20:Dused= 1.20}
R0002:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:335-338        17.90     .888 No_date   28:07   25.66  n/a     .000
     [RDT= 1.00] out<-    1.0 01:338-340        17.90     .838 No_date   28:08   25.66  n/a     .000
      [L/S/n=  233./ .100/.013]
      {Vmax= 1.194:Dmax=  .695}
      [Din= 1.35:Dused= 1.35}
R0002:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B4              7.60     .459 No_date   28:02   25.66 .564     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=    .0]
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      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B4              7.60    .459 No_date   28:02   25.66  n/a    .000
     Major System  /      1.0 02:B4-MJ            .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:B4-MN           7.60    .459 No_date   28:02   25.66  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:338-340        17.90    .838 No_date   28:08   25.66  n/a    .000
                   +      1.0 02:B4-MN           7.60    .459 No_date   28:02   25.66  n/a    .000
                SUM=      1.0 01:MH340          25.50   1.234 No_date   28:05   25.66  n/a    .000
R0002:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH340          25.50   1.234 No_date   28:05   25.66  n/a    .000
      fname :MH340.0002
      remark:Total Flows at MH340
R0002:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH340          25.50   1.234 No_date   28:05   25.66  n/a    .000
     [RDT= 1.00] out<-    1.0 01:340-104        25.50   1.182 No_date   28:07   25.66  n/a    .000
      [L/S/n=  240./ .150/.013]
      {Vmax= 1.502:Dmax=  .672}
      [Din= 1.65:Dused= 1.65]
R0002:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:340-104        25.50   1.182 No_date   28:07   25.66  n/a    .000
                   +      1.0 02:MH104         107.02   5.765 No_date   28:05   26.32  n/a    .000
                SUM=      1.0 01:MH104T        132.52   6.925 No_date   28:05   26.19  n/a    .000
R0002:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH104T        132.52   6.925 No_date   28:05   26.19  n/a    .000
     [RDT= 1.00] out<-    1.0 01:104-105       132.52   6.452 No_date   28:06   26.19  n/a    .000
      [L/S/n=  380./ .100/.013]
      {Vmax= 1.871:Dmax= 1.542}
      {HGTH= 2.10:WDTH= 2.40}
R0002:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B5              2.20    .187 No_date   28:00   29.51 .648    .000
      [XIMP=.57:TIMP=.57]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B5              2.20    .187 No_date   28:00   29.51  n/a    .000
     Major System  /      1.0 02:B5-MJ            .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:B5-MN           2.20    .187 No_date   28:00   29.51  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A8               .96    .099 No_date   28:00   34.21 .752    .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A6-MJ            .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:A8               .96    .099 No_date   28:00   34.21  n/a    .000
                SUM=      1.0 01:A8T              .96    .099 No_date   28:00   34.21  n/a    .000
R0002:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A8T              .96    .099 No_date   28:00   34.21  n/a    .000
     Major System  /      1.0 02:A8-MJ            .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:A8-MN            .96    .099 No_date   28:00   34.21  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:104-105       132.52   6.452 No_date   28:06   26.19  n/a    .000
                   +      1.0 02:B5-MN           2.20    .187 No_date   28:00   29.51  n/a    .000
                   +      1.0 02:A8-MN            .96    .099 No_date   28:00   34.21  n/a    .000
                   +      1.0 02:TODD_MN3j        .00    .000 No_date    0:00     .00  n/a    .000
                SUM=      1.0 01:MH105         135.68   6.624 No_date   28:06   26.30  n/a    .000
R0002:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH105         135.68   6.624 No_date   28:06   26.30  n/a    .000
      fname :MH105.0002
      remark:Total Flows at MH105
R0002:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  DIVERT HYD      ->    1.0 01:A8-MJ            .00    .000 No_date    0:00     .00  n/a    .000
           diverted <=    1.0 02:A8-MJ-JR         .00    .000 No_date    0:00     .00  n/a    .000
           diverted <=    1.0 03:A8-MJ-B6         .00    .000 No_date    0:00     .00  n/a    .000
R0002:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    DIVERT HYD      ->    1.0 01:MH105         135.68   6.624 No_date   28:06   26.30  n/a    .000
           diverted <=    1.0 02:MH105-JR       16.59   3.620 No_date   28:06   26.30  n/a    .000
           diverted <=    1.0 03:MH105-B6      119.09   3.004 No_date   28:06   26.30  n/a    .000
R0002:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B7              7.19    .479 No_date   28:01   25.66 .564    .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B4-MJ            .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:B7              7.19    .479 No_date   28:01   25.66  n/a    .000
                SUM=      1.0 01:B7-B4MJ         7.19    .479 No_date   28:01   25.66  n/a    .000
R0002:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B7-B4MJ         7.19    .479 No_date   28:01   25.66  n/a    .000
     Major System  /      1.0 02:B7R-MJ           .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:B7R-MN          7.19    .479 No_date   28:01   25.66  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:B7R-MN          7.19    .479 No_date   28:01   25.66  n/a    .000
     [RDT= 1.00] out<-    1.0 01:360-106A        7.19    .451 No_date   28:02   25.66  n/a    .000
      [L/S/n=  167./ .100/.013]
      {Vmax= 1.023:Dmax=  .558}
      [Din= 1.05:Dused= 1.05]
R0002:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:B6              3.29    .229 No_date   28:00   25.66 .564    .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B6              3.29    .229 No_date   28:00   25.66  n/a    .000
     Major System  /      1.0 02:B6-MJ            .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:B6-MN           3.29    .064 No_date   27:43   25.67  n/a    .000
      {MjSysSto=.1576E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:EX-LAND        32.50   2.093 No_date   28:02   26.85 .590    .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0002:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:EX-LAND        32.50   2.093 No_date   28:02   26.85  n/a    .000
     Major System  /      1.0 02:EX-LAND-MJ       .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:EX-LAND-MN     32.50   2.093 No_date   28:02   26.85  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:B7R-MJ           .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:EX-LAND-MJ       .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:B5-MJ            .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:B6-MJ            .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:B6-MN           3.29    .064 No_date   27:43   25.67  n/a    .000
                   +      1.0 02:A8-MJ-B6         .00    .000 No_date    0:00     .00  n/a    .000
                SUM=      1.0 01:B6-B7ExMJ       3.29    .064 No_date   27:43   25.67  n/a    .000
R0002:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:B6-B7ExMJ       3.29    .064 No_date   27:43   25.67  n/a    .000
     Major System  /      1.0 02:B6R-MJ           .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:B6R-MN          3.29    .064 No_date   27:43   25.67  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH105-B6      119.09   3.004 No_date   28:06   26.30  n/a    .000
     [RDT= 1.00] out<-    1.0 01:105-106A      119.09   3.006 No_date   28:08   26.30  n/a    .000
      [L/S/n=  208./ .100/.013]
      {Vmax= 1.596:Dmax= 1.247}
      [Din= 1.80:Dused= 1.80]
R0002:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:360-106A        7.19    .451 No_date   28:02   25.66  n/a    .000
                   +      1.0 02:105-106A      119.09   3.006 No_date   28:08   26.30  n/a    .000
                   +      1.0 02:B6R-MN          3.29    .064 No_date   27:43   25.67  n/a    .000
                   +      1.0 02:B6R-MJ           .00    .000 No_date    0:00     .00  n/a    .000
                SUM=      1.0 01:MH106A        129.57   3.466 No_date   28:03   26.25  n/a    .000
R0002:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH106A        129.57   3.466 No_date   28:03   26.25  n/a    .000
      fname :MH106A.0002
      remark:Total Flows at MH106A
R0002:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH106A        129.57   3.466 No_date   28:03   26.25  n/a    .000
 *   [RDT= 1.00] out<-    1.0 01:106A-106      129.57   3.450 No_date   28:04   26.25  n/a    .000
      [L/S/n=  190./ .100/.013]
      {Vmax= 1.626:Dmax= 1.406}
      [Din= 1.80:Dused= 1.80]
R0002:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A9              2.44    .240 No_date   28:01   34.21 .752    .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A9              2.44    .240 No_date   28:01   34.21  n/a    .000
     Major System  /      1.0 02:A9-MJ            .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:A9-MN           2.44    .240 No_date   28:01   34.21  n/a    .000
R0002:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:106A-106      129.57   3.450 No_date   28:04   26.25  n/a    .000
                   +      1.0 02:A9-MN           2.44    .240 No_date   28:01   34.21  n/a    .000
                SUM=      1.0 01:MH106         132.01   3.666 No_date   28:03   26.40  n/a    .000
R0002:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH106         132.01   3.666 No_date   28:03   26.40  n/a    .000
      fname :MH106.0002
      remark:Total Flows at MH106
R0002:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH106         132.01   3.666 No_date   28:03   26.40  n/a    .000
 *   [RDT= 1.00] out<-    1.0 01:106-107       132.01   3.602 No_date   28:06   26.40  n/a    .000
      [L/S/n=  123./ .100/.013]
      {Vmax= 1.631:Dmax= 1.482}
      [Din= 1.80:Dused= 1.81]
R0002:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A10             4.14    .246 No_date   28:01   23.49 .516    .000
      [XIMP=.35:TIMP=.47]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A10             4.14    .246 No_date   28:01   23.49  n/a    .000
     Major System  /      1.0 02:A10-MJ           .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:A10-MN          4.14    .246 No_date   28:01   23.49  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A11            10.61    .781 No_date   28:02   29.20 .642    .000
      [XIMP=.53:TIMP=.62]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A11            10.61    .781 No_date   28:02   29.20  n/a    .000
     Major System  /      1.0 02:A11-MJ           .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:A11-MN         10.61    .781 No_date   28:02   29.20  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:106-107       132.01   3.602 No_date   28:06   26.40  n/a    .000
                   +      1.0 02:A10-MN          4.14    .246 No_date   28:01   23.49  n/a    .000
                   +      1.0 02:A11-MN         10.61    .781 No_date   28:02   29.20  n/a    .000
                SUM=      1.0 01:MH107         146.76   4.589 No_date   28:02   26.52  n/a    .000
R0002:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH107         146.76   4.589 No_date   28:02   26.52  n/a    .000
      fname :MH107.0002
      remark:Total Flows at MH107
R0002:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH107         146.76   4.589 No_date   28:02   26.52  n/a    .000
 *   [RDT= 1.00] out<-    1.0 01:107-119       146.76   4.493 No_date   28:07   26.52  n/a    .000
      [L/S/n=  114./ .120/.013]
      {Vmax= 1.848:Dmax= 1.558}
      [Din= 1.80:Dused= 1.90}
R0002:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:107-119       146.76   4.493 No_date   28:07   26.52  n/a    .000
 *   [RDT= 1.00] out<-    1.0 01:119-108       146.76   4.469 No_date   28:07   26.52  n/a    .000
      [L/S/n=   66./ .120/.013]
      {Vmax= 1.838:Dmax= 1.546}
      [Din= 1.80:Dused= 1.88}
R0002:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A12            12.29    .834 No_date   28:01   25.66 .564    .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A12            12.29    .834 No_date   28:01   25.66  n/a    .000
     Major System  /      1.0 02:A12-MJ           .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:A12-MN         12.29    .834 No_date   28:01   25.66  n/a    .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A13             2.59    .239 No_date   28:02   34.21 .752    .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A13             2.59    .239 No_date   28:02   34.21  n/a    .000
     Major System  /      1.0 02:A13-MJ           .00    .000 No_date    0:00     .00  n/a    .000
     Minor System  \      1.0 03:A13-MN          2.59    .239 No_date   28:02   34.21  n/a    .000
R0002:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Pond-Block      2.94    .190 No_date   28:01   24.31 .534    .000
      [XIMP=.41:TIMP=.41]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:119-108       146.76   4.469 No_date   28:07   26.52  n/a    .000
                   +      1.0 02:A13-MN          2.59    .239 No_date   28:02   34.21  n/a    .000
                   +      1.0 02:A12-MN         12.29    .834 No_date   28:01   25.66  n/a    .000
                SUM=      1.0 01:MH108         161.64   5.450 No_date   28:03   26.58  n/a    .000
R0002:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH108         161.64   5.450 No_date   28:03   26.58  n/a    .000
      fname :MH108.0002
      remark:Total Flows at MH108
R0002:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH108         161.64   5.450 No_date   28:03   26.58  n/a    .000
 *   [RDT= 1.00] out<-    1.0 01:108-116       161.64   5.396 No_date   28:04   26.58  n/a    .000
      [L/S/n=   77./ .130/.013]
      {Vmax= 1.987:Dmax= 1.637}
      [Din= 1.80:Dused= 1.99}
R0002:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:108-116       161.64   5.396 No_date   28:04   26.58  n/a    .000
 *   [RDT= 1.00] out<-    1.0 01:116-corrig    161.64   5.363 No_date   28:04   26.58  n/a    .000
      [L/S/n=   80./ .130/.013]
      {Vmax= 1.983:Dmax= 1.631}
      [Din= 1.80:Dused= 1.99}
R0002:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:116-corrig    161.64   5.363 No_date   28:04   26.58  n/a    .000
                   +      1.0 02:Pond-Block      2.94    .190 No_date   28:01   24.31  n/a    .000
                SUM=      1.0 01:Corrigan      164.58   5.522 No_date   28:04   26.54  n/a    .000
R0002:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:Corrigan      164.58   5.522 No_date   28:04   26.54  n/a    .000
      fname :Corrigan.0002
      remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0002:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Corrigan      164.58   5.522 No_date   28:04   26.54  n/a    .000
                out <=    1.0 01:Co-P          164.58   4.479 No_date   28:12   26.54  n/a    .000
           overflow <=    1.0 03:Co-P-OVF         .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.9246E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:Co-P-OVF         .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:Co-P          164.58   4.479 No_date   28:12   26.54  n/a    .000
                   +      1.0 02:N_TO        54837.69  48.720 No_date   38:09   13.13  n/a    .000
                   +      1.0 02:MH105-JR       16.59   3.620 No_date   28:06   26.30  n/a    .000
                   +      1.0 02:A8-MJ-JR         .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:A9-MJ            .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:A10-MJ           .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:A11-MJ           .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:A12-MJ           .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:A13-MJ           .00    .000 No_date    0:00     .00  n/a    .000
                SUM=      1.0 01:corrig      55018.86  48.929 No_date   38:09   13.18  n/a    .000
R0002:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:corrig      55018.86  48.929 No_date   38:09   13.18  n/a    .000
      fname :corrig.0002
      remark:Total Flows at Corrigan Pond
#****************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#****************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0002:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:corrig      55018.86  48.929 No_date   38:09   13.18  n/a    .000
     [RDT= 1.00] out<-    1.0 01:N_MI        55018.86  48.925 No_date   38:13   13.18  n/a    .000
      [L/S/n=  580./ .445/.045]
      {Vmax= 1.453:Dmax= 1.221}
#****************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#****************************************************************************
R0002:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:MILLS         175.99   7.048 No_date   28:08   22.75 .500    .000
      [XIMP=.38:TIMP=.38]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
#****************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#****************************************************************************
R0002:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:MILLS         175.99   7.048 No_date   28:08   22.75  n/a    .000
                out <=    1.0 01:MILL_P        175.99   2.401 No_date   28:46   22.75  n/a    .000
           overflow <=    1.0 03:MIL-OV           .00    .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.1446E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_MI        55018.86  48.925 No_date   38:13   13.18  n/a    .000
                   +      1.0 02:MIL-OV           .00    .000 No_date    0:00     .00  n/a    .000
                   +      1.0 02:MILL_P        175.99   2.401 No_date   28:46   22.75  n/a    .000
                SUM=      1.0 01:SN_M        55194.85  49.162 No_date   38:11   13.21  n/a    .000
R0002:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_M        55194.85  49.162 No_date   38:11   13.21  n/a    .000
      fname :SN_M.0002
      remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0002:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_M        55194.85  49.162 No_date   38:11   13.21  n/a    .000
     [RDT= 1.00] out<-    1.0 01:N_DE        55194.85  49.114 No_date   38:33   13.21  n/a    .000
      [L/S/n= 1962./ .223/.045]
      {Vmax= 1.143:Dmax= 1.609}
#****************************************************************************
```

```
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#*****************************************************************************
R0002:C00393-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:DESIRE          23.78      .936 No_date   28:03   19.26 .423      .000
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#*****************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#*****************************************************************************
R0002:C00394-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JOCKVA         225.13    10.636 No_date   28:10   26.85 .590      .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0002:C00395-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:EX-LAND-MN      32.50     2.093 No_date   28:02   26.85  n/a      .000
                     +     1.0 02:JOCKVA         225.13    10.636 No_date   28:10   26.85  n/a      .000
                     +     1.0 02:B2-MI             .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 02:B3-MI             .00      .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 01:JOCKVA-TO      257.63    12.234 No_date   28:07   26.85  n/a      .000
R0002:C00396-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:JOCKVA-TO      257.63    12.234 No_date   28:07   26.85  n/a      .000
       fname :JOCKVA-TO.0002
       remark:Total Flows at KB first pond
#*****************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#*****************************************************************************
R0002:C00397-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO      257.63    12.234 No_date   28:07   26.85  n/a      .000
                 out <=    1.0 01:JOCK_P         257.63     2.560 No_date   29:05   26.85  n/a      .000
            overflow <=    1.0 03:JO-OVF            .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.3334E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00398-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_DE         55194.85    49.114 No_date   38:33   13.21  n/a      .000
                     +     1.0 02:DESIRE          23.78      .936 No_date   28:03   19.26  n/a      .000
                     +     1.0 02:JO-OVF            .00      .000 No_date    0:00     .00  n/a      .000
                     +     1.0 02:JOCK_P         257.63     2.560 No_date   29:05   26.85  n/a      .000
                  SUM=     1.0 01:SN_DE        55476.26    49.482 No_date   38:27   13.27  n/a      .000
R0002:C00399-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_DE        55476.26    49.482 No_date   38:27   13.27  n/a      .000
       fname :SN_DE.0002
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0002:C00400-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_DE        55476.26    49.482 No_date   38:27   13.27  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N1           55476.26    49.480 No_date   38:33   13.27  n/a      .000
       [L/S/n=  563./ .967/.045]
       {Vmax= 1.489:Dmax=  .800}
#*****************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#*****************************************************************************
R0002:C00401-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-2            102.94     1.373 No_date   28:20   13.01 .286      .000
       [CN= 72.0:  N= 3.00:  Tp=  .40]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
R0002:C00402-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N1           55476.26    49.480 No_date   38:33   13.27  n/a      .000
                     +     1.0 02:S-2            102.94     1.373 No_date   28:20   13.01  n/a      .000
                  SUM=     1.0 01:SN_N1        55579.20    49.578 No_date   38:33   13.27  n/a      .000
R0002:C00403-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_N1        55579.20    49.578 No_date   38:33   13.27  n/a      .000
       fname :SN_N1.0002
       remark:Total Flows at Rideau River
#############################################################################
  ** END OF RUN :     4

*****************************************************************************************





 RUN#:COMMAND#
R0005:C00001-----------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0005 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [MM]
#  Company       : JFSAinc.
#  License #     :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# ----------------------------------------------------------------------------
R0005:C00002-----------------------------------------------------------------------------
      READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
R0005:C00003-----------------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
R0005:C00004-----------------------------------------------------------------------------
      DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   4.67 mm] [N= 3.00]
       Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0005:C00005-----------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
       {APImax= 90.83:  APIavg= 60.09:  APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0005:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_HW         3680.00     9.398 No_date   37:02   16.41 .287      .000
       [CN= 64.0:  N= 3.00:  Tp= 7.13]
       [IaREC= 4.00:  SMIN= 57.05:  SMAX=380.32:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0005:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_13          971.00     3.405 No_date   32:36   15.29 .268      .000
       [CN= 61.0:  N= 3.00:  Tp= 3.76]
       [IaREC= 4.00:  SMIN= 64.50:  SMAX=430.01:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_GWM        3074.00     4.682 No_date   39:59   13.23 .232      .000
       [CN= 55.0:  N= 3.00:  Tp=11.33]
       [IaREC= 4.00:  SMIN= 83.24:  SMAX=554.96:  SK= .010]
       [InterEventTime=  12.00]
R0005:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_ASH        1781.00     8.521 No_date   32:43   20.12 .352      .000
       [CN= 72.0:  N= 3.00:  Tp= 3.91]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
R0005:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_11          500.00     4.354 No_date   29:22   17.18 .301      .000
       [CN= 66.0:  N= 3.00:  Tp= 1.24]
       [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NN_CK         1917.00     6.210 No_date   34:31   17.18 .301      .000
       [CN= 66.0:  N= 3.00:  Tp= 5.29]
       [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0005:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_10         5666.00    16.924 No_date   38:02   20.12 .352      .000
       [CN= 72.0:  N= 3.00:  Tp= 8.00]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0005:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:KG_CK         8376.00    16.342 No_date   39:59   17.18 .301      .000
       [CN= 66.0:  N= 3.00:  Tp=11.66]
       [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0005:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_9          1132.00     6.963 No_date   30:55   19.24 .337      .000
       [CN= 70.0:  N= 3.00:  Tp= 2.51]
       [IaREC= 4.00:  SMIN= 43.07:  SMAX=287.10:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0005:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NC_CK         4464.00     8.109 No_date   39:59   15.66 .274      .000
       [CN= 62.0:  N= 3.00:  Tp=11.32]
       [IaREC= 4.00:  SMIN= 61.90:  SMAX=412.66:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_8           131.00     1.298 No_date   28:57   16.03 .281      .000
       [CN= 63.0:  N= 3.00:  Tp=  .90]
       [IaREC= 4.00:  SMIN= 59.42:  SMAX=396.11:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0005:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:HB_DR         3854.00     9.385 No_date   38:41   17.18 .301      .000
       [CN= 66.0:  N= 3.00:  Tp= 8.42]
       [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0005:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_7          3197.00     7.027 No_date   36:28   13.89 .243      .000
       [CN= 57.0:  N= 3.00:  Tp= 6.65]
       [IaREC= 4.00:  SMIN= 76.32:  SMAX=508.81:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0005:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_6           165.00      .641 No_date   33:06   17.58 .308      .000
       [CN= 67.0:  N= 3.00:  Tp= 4.18]
       [IaREC= 4.00:  SMIN= 50.55:  SMAX=336.97:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0005:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:VG_DR         1332.00     4.803 No_date   35:19   20.12 .352      .000
       [CN= 72.0:  N= 3.00:  Tp= 5.95]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
R0005:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5           224.00     4.100 No_date   28:45   22.97 .402      .000
       [CN= 77.0:  N= 3.00:  Tp=  .75]
       [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0005:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FL_CK         4945.00    22.837 No_date   33:22   21.04 .368      .000
       [CN= 74.0:  N= 3.00:  Tp= 4.45]
       [IaREC= 4.00:  SMIN= 36.67:  SMAX=244.49:  SK= .010]
       [InterEventTime=  12.00]
R0005:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A2          20.00      .483 No_date   28:36   25.62 .448      .000
       [CN= 81.0:  N= 3.00:  Tp=  .62]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0005:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A1        1412.00     4.646 No_date   37:58   21.98 .385      .000
       [CN= 75.0:  N= 3.00:  Tp= 8.00]
       [IaREC= 4.00:  SMIN= 33.81:  SMAX=225.43:  SK= .010]
       [InterEventTime=  12.00]
R0005:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_4           585.00     6.688 No_date   29:57   25.62 .448      .000
       [CN= 81.0:  N= 3.00:  Tp= 1.75]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
R0005:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:LM_CK         1021.00     8.861 No_date   30:48   25.07 .439      .000
       [CN= 80.0:  N= 3.00:  Tp= 2.46]
       [IaREC= 4.00:  SMIN= 26.32:  SMAX=175.50:  SK= .010]
       [InterEventTime=  12.00]
R0005:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_2           177.00     3.240 No_date   28:45   22.97 .402      .000
       [CN= 77.0:  N= 3.00:  Tp=  .75]
       [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
       [InterEventTime=  12.00]
R0005:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SM_DR         1122.00     8.165 No_date   31:48   25.62 .448      .000
       [CN= 81.0:  N= 3.00:  Tp= 3.25]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
R0005:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:MD_DR         2737.00    17.859 No_date   31:33   22.47 .393      .000
       [CN= 76.0:  N= 3.00:  Tp= 3.03]
       [IaREC= 4.00:  SMIN= 32.46:  SMAX=216.39:  SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0005:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR_HW         3680.00     9.398 No_date   37:02   16.41  n/a      .000
                     +     1.0 02:SW_13          971.00     3.405 No_date   32:36   15.29  n/a      .000
                  SUM=     1.0 01:S_N13         4651.00    11.949 No_date   35:33   16.17  n/a      .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0005:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N13         4651.00    11.949 No_date   35:33   16.17  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N13A          4651.00     9.514 No_date   39:57   16.17  n/a      .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .478:Dmax= 3.020}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0005:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N13A          4651.00     9.514 No_date   39:57   16.17  n/a      .000
                     +     1.0 02:JR_GWM        3074.00     4.682 No_date   39:59   13.23  n/a      .000
                  SUM=     1.0 01:SN13A         7725.00    14.196 No_date   39:59   15.00  n/a      .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0005:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:SN13A         7725.00    14.196 No_date   39:59   15.00  n/a      .000
                 out <=    1.0 01:RES_GM        7725.00     3.149 No_date   57:25   15.00  n/a      .000
      {MxStoUsed=.6321E+02  m3}
#
R0005:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:RES_GM        7725.00     3.149 No_date   57:25   15.00  n/a      .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0005:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:RES_GM        7725.00     3.149 No_date   57:25   15.00  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N12           7725.00     3.137 No_date   60:12   15.00  n/a      .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .527:Dmax= 1.429}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0005:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N12           7725.00     3.137 No_date   60:12   15.00  n/a      .000
                     +     1.0 02:JR_ASH        1781.00     8.521 No_date   32:43   20.12  n/a      .000
                  SUM=     1.0 01:S_N12         9506.00    10.498 No_date   32:46   15.96  n/a      .000
R0005:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N12         9506.00    10.498 No_date   32:46   15.96  n/a      .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
```

```
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N12        9506.00   10.498 No_date   32:46   15.96  n/a     .000
     [RDT= 1.00] out<-     1.0 01:Dum11        9506.00   10.383 No_date   33:07   15.96  n/a     .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .648:Dmax= 2.406}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:Dum11        9506.00   10.383 No_date   33:07   15.96  n/a     .000
                       +   1.0 02:SW_11         500.00    4.354 No_date   29:22   17.18  n/a     .000
                       +   1.0 02:NN_CK        1917.00    6.210 No_date   34:31   17.18  n/a     .000
                    SUM=   1.0 01:S_N11       11923.00   17.560 No_date   33:09   16.21  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N11       11923.00   17.560 No_date   33:09   16.21  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N10         11923.00   12.006 No_date   38:17   16.21  n/a     .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .461:Dmax= 1.087}
#
# Addition of Subwatershed 10 to Node 10
#
R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N10         11923.00   12.006 No_date   38:17   16.21  n/a     .000
                       +   1.0 02:SW_10        5666.00   16.924 No_date   38:02   20.12  n/a     .000
                    SUM=   1.0 01:S_N10       17589.00   28.927 No_date   38:09   17.47  n/a     .000
R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N10       17589.00   28.927 No_date   38:09   17.47  n/a     .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S_N10       17589.00   28.927 No_date   38:09   17.47  n/a     .000
                       +   1.0 02:KG_CK        8376.00   16.342 No_date   39:59   17.18  n/a     .000
                    SUM=   1.0 01:S_N10A      25965.00   44.722 No_date   39:35   17.37  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N10A      25965.00   44.722 No_date   39:35   17.37  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N9          25965.00   43.534 No_date   39:59   17.37  n/a     .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .664:Dmax= 1.502}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N9          25965.00   43.534 No_date   39:59   17.37  n/a     .000
                       +   1.0 02:SW_9         1132.00    6.963 No_date   30:55   19.24  n/a     .000
                       +   1.0 02:NC_CK        4464.00    8.109 No_date   39:59   15.66  n/a     .000
                    SUM=   1.0 01:S_N9        31561.00   53.366 No_date   39:59   17.20  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N9        31561.00   53.366 No_date   39:59   17.20  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N8          31561.00   49.404 No_date   39:59   17.20  n/a     .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .370:Dmax= 1.520}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N8          31561.00   49.404 No_date   39:59   17.20  n/a     .000
                       +   1.0 02:SW_8          131.00    1.298 No_date   28:57   16.03  n/a     .000
                       +   1.0 02:HB_DR        3854.00    9.385 No_date   38:41   17.18  n/a     .000
                    SUM=   1.0 01:S_N8        35546.00   58.845 No_date   39:59   17.19  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N8        35546.00   58.845 No_date   39:59   17.19  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N7          35546.00   48.127 No_date   45:08   17.19  n/a     .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .208:Dmax= 1.855}
#
# Addition of Subwatershed 7 to Node 7
#
R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N7          35546.00   48.127 No_date   45:08   17.19  n/a     .000
                       +   1.0 02:SW_7         3197.00    7.027 No_date   36:28   13.89  n/a     .000
                    SUM=   1.0 01:S_N7        38743.00   51.395 No_date   44:14   16.92  n/a     .000
R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N7        38743.00   51.395 No_date   44:14   16.92  n/a     .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S_N7        38743.00   51.395 No_date   44:14   16.92  n/a     .000
                out <=     1.0 01:RES_RF      38743.00   27.976 No_date   59:12   16.92  n/a     .000
     {MxStoUsed=.1784E+03  m3}
R0005:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:RES_RF      38743.00   27.976 No_date   59:12   16.92  n/a     .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0005:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:RES_RF      38743.00   27.976 No_date   59:12   16.92  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N6          38743.00   27.930 No_date   60:29   16.92  n/a     .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .460:Dmax=  .895}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0005:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N6          38743.00   27.930 No_date   60:29   16.92  n/a     .000
                       +   1.0 02:SW_6          165.00     .641 No_date   33:06   17.58  n/a     .000
                       +   1.0 02:VG_DR        1332.00    4.803 No_date   35:19   20.12  n/a     .000
                    SUM=   1.0 01:S_N6        40240.01   27.944 No_date   60:06   17.03  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0005:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N6        40240.01   27.944 No_date   60:06   17.03  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N5          40240.01   27.922 No_date   60:57   17.03  n/a     .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .397:Dmax= 1.002}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0005:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N5          40240.01   27.922 No_date   60:57   17.03  n/a     .000
                       +   1.0 02:SW_5          224.00    4.100 No_date   28:45   22.97  n/a     .000
                       +   1.0 02:FL_CK        4945.00   22.837 No_date   33:22   21.04  n/a     .000
                    SUM=   1.0 01:S_N5        45409.01   43.566 No_date   35:28   17.49  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0005:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N5        45409.01   43.566 No_date   35:28   17.49  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N5A         45409.01   43.490 No_date   35:47   17.49  n/a     .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .465:Dmax= 1.060}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0005:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N5A         45409.01   43.490 No_date   35:47   17.49  n/a     .000
                       +   1.0 02:SW_5A2         20.00     .483 No_date   28:36   25.62  n/a     .000
                       +   1.0 02:SW_5A1       1412.00    4.646 No_date   37:58   21.98  n/a     .000
                    SUM=   1.0 01:S_N5A       46841.01   47.976 No_date   35:58   17.63  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0005:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N5A       46841.01   47.976 No_date   35:58   17.63  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N4          46841.01   46.217 No_date   37:26   17.63  n/a     .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .756:Dmax= 3.116}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0005:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N4          46841.01   46.217 No_date   37:26   17.63  n/a     .000
                       +   1.0 02:SW_4          585.00    6.688 No_date   29:57   25.62  n/a     .000
                       +   1.0 02:LM_CK        1021.00    8.861 No_date   30:48   25.07  n/a     .000
                    SUM=   1.0 01:S_N4        48447.00   50.308 No_date   36:47   17.89  n/a     .000
R0005:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N4        48447.00   50.308 No_date   36:47   17.89  n/a     .000
      fname :S_N4.0005
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0005:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N4        48447.00   50.308 No_date   36:47   17.89  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N2          48447.00   50.131 No_date   37:08   17.89  n/a     .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .781:Dmax= 3.131}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0005:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N2          48447.00   50.131 No_date   37:08   17.89  n/a     .000
                       +   1.0 02:SW_2          177.00    3.240 No_date   28:45   22.97  n/a     .000
                       +   1.0 02:SM_DR        1122.00    8.165 No_date   31:48   25.62  n/a     .000
                       +   1.0 02:MO_DR        2737.00   17.859 No_date   31:33   22.47  n/a     .000
                    SUM=   1.0 01:S_N2        52483.00   67.222 No_date   33:17   18.31  n/a     .000
R0005:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N2        52483.00   67.222 No_date   33:17   18.31  n/a     .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#*************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0005:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N2        52483.00   67.222 No_date   33:17   18.31  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_416       52483.00   65.664 No_date   34:34   18.31  n/a     .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .658:Dmax= 2.660}
#*************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#*************************************************************************
R0005:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_1a         536.42    3.012 No_date   31:18   19.00 .333     .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0005:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-Okeefe     44.93    4.591 No_date   28:03   42.00 .735     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_416       52483.00   65.664 No_date   34:34   18.31  n/a     .000
                       +   1.0 02:SW_1a         536.42    3.012 No_date   31:18   19.00  n/a     .000
                       +   1.0 02:S-1-Okeefe     44.93    4.591 No_date   28:03   42.00  n/a     .000
                    SUM=   1.0 01:SN_416      53064.36   67.942 No_date   34:06   18.33  n/a     .000
R0005:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_416      53064.36   67.942 No_date   34:06   18.33  n/a     .000
      fname :SN_416.0005
      remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0005:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_416      53064.36   67.942 No_date   34:06   18.33  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_OK        53064.36   67.912 No_date   34:06   18.33  n/a     .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.355:Dmax= 2.252}
#*************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#*************************************************************************
R0005:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-1            63.72     .514 No_date   28:59   13.88 .243     .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
R0005:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:O-1            63.72     .514 No_date   28:59   13.88  n/a     .000
     [RDT= 1.00] out<-     1.0 01:O-1R           63.72     .470 No_date   29:19   13.88  n/a     .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .682:Dmax=  .283}
R0005:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-2            28.61     .183 No_date   29:14   12.96 .227     .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
R0005:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-4            46.94     .222 No_date   29:01    9.87 .173     .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime=  12.00]
R0005:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:O-1R           63.72     .470 No_date   29:19   13.88  n/a     .000
                       +   1.0 02:O-2            28.61     .183 No_date   29:14   12.96  n/a     .000
                       +   1.0 02:O-4            46.94     .222 No_date   29:01    9.87  n/a     .000
                    SUM=   1.0 01:OKF-N         139.27     .867 No_date   29:14   12.34  n/a     .000
R0005:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:OKF-N         139.27     .867 No_date   29:14   12.34  n/a     .000
     [RDT= 1.00] out<-     1.0 01:OKF-NR        139.27     .866 No_date   29:17   12.34  n/a     .000
      [L/S/n=  210./ .810/.043]
      {Vmax=  .853:Dmax=  .550}
R0005:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-6            16.46     .074 No_date   28:46    8.71 .152     .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime=  12.00]
R0005:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:O-3            39.67     .605 No_date   28:25   15.80 .277     .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0005:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:O-5            60.63    1.453 No_date   28:11   17.75 .311     .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0005:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:OKF-NR        139.27     .866 No_date   29:17   12.34  n/a     .000
                       +   1.0 02:O-3            39.67     .605 No_date   28:25   15.80  n/a     .000
                       +   1.0 02:O-5            60.63    1.453 No_date   28:11   17.75  n/a     .000
                       +   1.0 02:O-6            16.46     .074 No_date   28:46    8.71  n/a     .000
                    SUM=   1.0 01:PT1           256.03    2.312 No_date   28:24   13.92  n/a     .000
R0005:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-7             5.28     .041 No_date   28:37   11.36 .199     .000
      [CN= 54.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
      [InterEventTime=  12.00]
R0005:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:PT1           256.03    2.312 No_date   28:24   13.92  n/a     .000
                       +   1.0 02:O-7             5.28     .041 No_date   28:37   11.36  n/a     .000
                    SUM=   1.0 01:FF            261.31    2.351 No_date   28:25   13.87  n/a     .000
R0005:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:FF            261.31    2.351 No_date   28:25   13.87  n/a     .000
     [RDT= 1.00] out<-     1.0 01:DRAIN1        261.31    2.298 No_date   28:31   13.87  n/a     .000
      [L/S/n=  302./1.000/.043]
      {Vmax=  .817:Dmax=  .624}
R0005:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D1              1.17     .044 No_date   28:12   23.49 .411     .000
      [CN= 84.0: N= 3.00: Tp=  .28]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0005:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A1              2.50     .337 No_date   28:01   44.03 .771     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:A1              2.50     .337 No_date   28:01   44.03  n/a     .000
                out <=     1.0 01:A1-STR          2.50     .076 No_date   28:28   44.03  n/a     .000
           overflow <=     1.0 03:A1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5227E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=     0.hrs}
R0005:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:ST-2             .59     .062 No_date   28:00   33.25 .582     .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:ST-2             .59     .062 No_date   28:00   33.25  n/a     .000
                out <=     1.0 01:ST2STR           .59     .052 No_date   28:03   33.25  n/a     .000
           overflow <=     1.0 03:ST2OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1200E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=     0.hrs}
R0005:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-8            60.55     .658 No_date   29:05   18.08 .317     .000
      [CN= 69.0: N= 3.00: Tp= 1.00]
      [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
      [InterEventTime=  12.00]
R0005:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:O-8            60.55     .658 No_date   29:05   18.08  n/a     .000
     [RDT= 1.00] out<-     1.0 01:O8PIPE         60.55     .654 No_date   29:09   18.08  n/a     .000
      [L/S/n=  335./ .100/.013]
```

```
            {Vmax=   .991:Dmax=   .368}
            {HGTH= 1.20:WDTH= 1.80}
R0005:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:DRAIN1         261.31      2.298 No_date    28:31    13.87  n/a      .000
                         +      1.0 02:D1               1.17       .044 No_date    28:12    23.49  n/a      .000
                         +      1.0 02:A1-STR           2.50       .076 No_date    28:28    44.03  n/a      .000
                         +      1.0 02:A1-OVF            .00       .000 No_date     0:00      .00  n/a      .000
                         +      1.0 02:ST2STR            .59       .052 No_date    28:03    33.25  n/a      .000
                         +      1.0 02:ST2OVF            .00       .000 No_date     0:00      .00  n/a      .000
                         +      1.0 02:O8PIPE          60.55       .654 No_date    29:09    18.08  n/a      .000
                      SUM=      1.0 01:ST2-IN         326.12      2.907 No_date    28:39    14.95  n/a      .000
R0005:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:A7                 3.51       .460 No_date    28:02    44.03 .771      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:A7                3.51       .460 No_date    28:02    44.03  n/a      .000
                    out  <=     1.0 01:A7-STR            3.51       .108 No_date    28:29    44.03  n/a      .000
               overflow <=     1.0 03:A7-OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.7349E-01   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:ST-3                .71       .073 No_date    28:00    33.25 .582      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:ST-3               .71       .073 No_date    28:00    33.25  n/a      .000
                    out  <=     1.0 01:ST3STR             .71       .063 No_date    28:03    33.25  n/a      .000
               overflow <=     1.0 03:ST3OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.1203E-02   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:ST2-IN         326.12      2.907 No_date    28:39    14.95  n/a      .000
                         +      1.0 02:A7-STR           3.51       .108 No_date    28:29    44.03  n/a      .000
                         +      1.0 02:A7-OVF            .00       .000 No_date     0:00      .00  n/a      .000
                         +      1.0 02:ST3STR            .71       .063 No_date    28:03    33.25  n/a      .000
                         +      1.0 02:ST3OVF            .00       .000 No_date     0:00      .00  n/a      .000
                      SUM=      1.0 01:PT2ST3         330.34      3.026 No_date    28:38    15.30  n/a      .000
R0005:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL     ->      1.0 02:PT2ST3         330.34      3.026 No_date    28:38    15.30  n/a      .000
       [RDT= 1.00] out<-        1.0 01:DRAIN2         330.34      2.842 No_date    29:04    15.30  n/a      .000
        [L/S/n=   592./  .230/.043]
        {Vmax=   .607:Dmax=   .930}
R0005:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:D2                 2.28       .035 No_date    29:05    23.49 .411      .000
        [CN= 84.0:  N= 3.00:  Tp=   .99]
        [IaREC= 4.00:  SMIN= 21.09:  SMAX=140.62:  SK= .010]
        [InterEvent Time=   12.00]
R0005:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:A17               12.04      1.379 No_date    28:04    44.03 .771      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:A17              12.04      1.379 No_date    28:04    44.03  n/a      .000
                    out  <=     1.0 01:A17STR           12.04       .353 No_date    28:36    44.03  n/a      .000
               overflow <=     1.0 03:A17OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.2492E+00   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:ST-4                .35       .038 No_date    28:00    33.25 .582      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:ST-4               .35       .038 No_date    28:00    33.25  n/a      .000
                    out  <=     1.0 01:ST4STR             .35       .031 No_date    28:03    33.25  n/a      .000
               overflow <=     1.0 03:ST4OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.1040E-02   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:A18                5.30       .671 No_date    28:02    44.03 .771      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:A18               5.30       .671 No_date    28:02    44.03  n/a      .000
                    out  <=     1.0 01:A18STR            5.30       .160 No_date    28:31    44.03  n/a      .000
               overflow <=     1.0 03:A18OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.1108E+00   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:DRAIN2         330.34      2.842 No_date    29:04    15.30  n/a      .000
                         +      1.0 02:D2               2.28       .035 No_date    29:05    23.49  n/a      .000
                         +      1.0 02:A17STR          12.04       .353 No_date    28:36    44.03  n/a      .000
                         +      1.0 02:A17OVF            .00       .000 No_date     0:00      .00  n/a      .000
                         +      1.0 02:ST4STR            .35       .031 No_date    28:03    33.25  n/a      .000
                         +      1.0 02:ST4OVF            .00       .000 No_date     0:00      .00  n/a      .000
                         +      1.0 02:A18STR           5.30       .160 No_date    28:31    44.03  n/a      .000
                         +      1.0 02:A18OVF            .00       .000 No_date     0:00      .00  n/a      .000
                      SUM=      1.0 01:PT3ST4         350.31      3.317 No_date    28:57    16.79  n/a      .000
R0005:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL     ->      1.0 02:PT3ST4         350.31      3.317 No_date    28:57    16.79  n/a      .000
       [RDT= 1.00] out<-        1.0 01:DRAIN3         350.31      3.191 No_date    29:19    16.79  n/a      .000
        [L/S/n=   525./  .230/.043]
        {Vmax=   .635:Dmax=   .979}
R0005:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:D3                 2.51       .055 No_date    28:45    25.92 .454      .000
        [CN= 86.0:  N= 3.00:  Tp=   .73]
        [IaREC= 4.00:  SMIN= 17.43:  SMAX=116.21:  SK= .010]
        [InterEvent Time=   12.00]
R0005:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:C1                 3.41       .450 No_date    28:01    44.03 .771      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:C1                3.41       .450 No_date    28:01    44.03  n/a      .000
                    out  <=     1.0 01:C1-STR            3.41       .104 No_date    28:29    44.03  n/a      .000
               overflow <=     1.0 03:C1-OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.7123E-01   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:ST-5                .45       .048 No_date    28:00    33.25 .582      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:ST-5               .45       .048 No_date    28:00    33.25  n/a      .000
                    out  <=     1.0 01:ST5STR             .45       .040 No_date    28:03    33.25  n/a      .000
               overflow <=     1.0 03:ST5OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.1108E-02   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:DRAIN3         350.31      3.191 No_date    29:19    16.79  n/a      .000
                         +      1.0 02:D3               2.51       .055 No_date    28:45    25.92  n/a      .000
                         +      1.0 02:C1-STR           3.41       .104 No_date    28:29    44.03  n/a      .000
                         +      1.0 02:C1-OVF            .00       .000 No_date     0:00      .00  n/a      .000
                         +      1.0 02:ST5STR            .45       .040 No_date    28:03    33.25  n/a      .000
                         +      1.0 02:ST5OVF            .00       .000 No_date     0:00      .00  n/a      .000
                      SUM=      1.0 01:ST5-E          356.68      3.312 No_date    29:13    17.14  n/a      .000
R0005:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:STRAND             7.59       .640 No_date    28:12    42.86 .750      .000
        [XIMP=.64:TIMP=.85]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:STRAND            7.59       .640 No_date    28:12    42.86  n/a      .000
                    out  <=     1.0 01:S-POND            7.59       .048 No_date    29:55    42.86  n/a      .000
               overflow <=     1.0 03:S-OVF              .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.2288E+00   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:ST5-E          356.68      3.312 No_date    29:13    17.14  n/a      .000
                         +      1.0 02:S-POND           7.59       .048 No_date    29:55    42.86  n/a      .000
                         +      1.0 02:S-OVF             .00       .000 No_date     0:00      .00  n/a      .000
                      SUM=      1.0 01:SSAOUT         364.27      3.358 No_date    29:13    17.68  n/a      .000
R0005:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                  1.0 01:SSAOUT         364.27      3.358 No_date    29:13    17.68  n/a      .000
        fname :SSAOUT.0005
        remark:SSAOUT
R0005:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:Area-A            66.75      5.433 No_date    28:11    42.06 .736      .000
        [XIMP=.64:TIMP=.80]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                  1.0 01:Area-A          66.75      5.433 No_date    28:11    42.06  n/a      .000
        fname :Area-A.0005
        remark:SMWF-A Inflow
R0005:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:Area-A           66.75      5.433 No_date    28:11    42.06  n/a      .000
                    out  <=     1.0 01:SWMF-A           66.75       .298 No_date    30:20    42.06  n/a      .000
               overflow <=     1.0 03:SWMAOV             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.2106E+01   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                  1.0 01:SWMF-A          66.75       .298 No_date    30:20    42.06  n/a      .000
        fname :SWMF-A.0005
        remark:SMWF-A Outflow
R0005:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:SSAOUT         364.27      3.358 No_date    29:13    17.68  n/a      .000
                         +      1.0 02:SWMF-A          66.75       .298 No_date    30:20    42.06  n/a      .000
                         +      1.0 02:SWMAOV            .00       .000 No_date     0:00      .00  n/a      .000
                      SUM=      1.0 01:PT4ST5         431.02      3.613 No_date    29:19    21.45  n/a      .000
R0005:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:C6                 1.87       .260 No_date    28:01    44.03 .771      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:C6                1.87       .260 No_date    28:01    44.03  n/a      .000
                    out  <=     1.0 01:C6-STR            1.87       .058 No_date    28:26    44.03  n/a      .000
               overflow <=     1.0 03:C6-OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.3924E-01   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:C7                 1.62       .227 No_date    28:01    44.03 .771      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:C7                1.62       .227 No_date    28:01    44.03  n/a      .000
                    out  <=     1.0 01:C7-STR            1.62       .050 No_date    28:26    44.03  n/a      .000
               overflow <=     1.0 03:C7-OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.3391E-01   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:ST-6                .41       .044 No_date    28:00    33.25 .582      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:ST-6               .41       .044 No_date    28:00    33.25  n/a      .000
                    out  <=     1.0 01:ST6STR             .41       .036 No_date    28:03    33.25  n/a      .000
               overflow <=     1.0 03:ST6OVF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.1092E-02   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:PT4ST5         431.02      3.613 No_date    29:19    21.45  n/a      .000
                         +      1.0 02:C6-STR           1.87       .058 No_date    28:26    44.03  n/a      .000
                         +      1.0 02:C6-OVF            .00       .000 No_date     0:00      .00  n/a      .000
                         +      1.0 02:C7-STR           1.62       .050 No_date    28:26    44.03  n/a      .000
                         +      1.0 02:C7-OVF            .00       .000 No_date     0:00      .00  n/a      .000
                         +      1.0 02:ST6STR            .41       .036 No_date    28:03    33.25  n/a      .000
                         +      1.0 02:ST6OVF            .00       .000 No_date     0:00      .00  n/a      .000
                      SUM=      1.0 01:PT5ST6         434.92      3.684 No_date    29:13    21.64  n/a      .000
R0005:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL     ->      1.0 02:PT5ST6         434.92      3.684 No_date    29:13    21.64  n/a      .000
       [RDT= 1.00] out<-        1.0 01:DRAIN4         434.92      3.572 No_date    29:35    21.64  n/a      .000
        [L/S/n=   324./  .100/.043]
        {Vmax=   .480:Dmax= 1.218}
R0005:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:D4                 1.73       .049 No_date    28:35    27.98 .490      .000
        [CN= 88.0:  N= 3.00:  Tp=   .60]
        [IaREC= 4.00:  SMIN= 14.94:  SMAX= 99.61:  SK= .010]
        [InterEvent Time=   12.00]
R0005:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:Area-B            24.04      2.784 No_date    28:04    40.98 .717      .000
        [XIMP=.62:TIMP=.77]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious       area:  IAper= 4.67:SLPP=1.40:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
R0005:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:Area-B           24.04      2.784 No_date    28:04    40.98  n/a      .000
                    out  <=     1.0 01:SWMF-B           24.04       .278 No_date    28:55    40.98  n/a      .000
               overflow <=     1.0 03:SWMBOVF            .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.6277E+00   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:DRAIN4         434.92      3.572 No_date    29:35    21.64  n/a      .000
                         +      1.0 02:D4               1.73       .049 No_date    28:35    27.98  n/a      .000
                         +      1.0 02:SWMF-B          24.04       .278 No_date    28:55    40.98  n/a      .000
                         +      1.0 02:SWMBOVF           .00       .000 No_date     0:00      .00  n/a      .000
                      SUM=      1.0 01:D4-EX          460.69      3.861 No_date    29:25    22.68  n/a      .000
R0005:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL     ->      1.0 02:D4-EX          460.69      3.861 No_date    29:25    22.68  n/a      .000
       [RDT= 1.00] out<-        1.0 01:DRAIN5         460.69      3.810 No_date    29:44    22.68  n/a      .000
        [L/S/n=   413./  .160/.033]
        {Vmax=   .561:Dmax=   .821}
R0005:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:D5                 1.90       .044 No_date    28:42    25.92 .454      .000
        [CN= 86.0:  N= 3.00:  Tp=   .69]
        [IaREC= 4.00:  SMIN= 17.43:  SMAX=116.21:  SK= .010]
        [InterEvent Time=   12.00]
R0005:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:O-13SDF            9.74       .290 No_date    28:22    24.64 .431      .000
        [CN= 81.0:  N= 3.00:  Tp=   .43]
        [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
        [InterEvent Time=   12.00]
R0005:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:O-13SDF           9.74       .290 No_date    28:22    24.64  n/a      .000
                    out  <=     1.0 01:SDF               9.74       .032 No_date    32:11    24.64  n/a      .000
               overflow <=     1.0 03:OVFSDF             .00       .000 No_date     0:00      .00  n/a      .000
       {MkStoUsed=.1268E+00   m3,  TotOvfVol=.0000E+00   m3,  N-Ovf=      0,  TotDurOvf=      0.hrs}
R0005:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:DRAIN5         460.69      3.810 No_date    29:44    22.68  n/a      .000
                         +      1.0 02:D5               1.90       .044 No_date    28:42    25.92  n/a      .000
                         +      1.0 02:SDF              9.74       .032 No_date    32:11    24.64  n/a      .000
                      SUM=      1.0 01:PT6MC          472.33      3.863 No_date    29:44    22.73  n/a      .000
R0005:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:O-15              10.67       .385 No_date    28:13    23.43 .410      .000
        [CN= 82.0:  N= 3.00:  Tp=   .30]
        [IaREC= 4.00:  SMIN= 23.09:  SMAX=153.94:  SK= .010]
        [InterEvent Time=   12.00]
R0005:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:PT6MC          472.33      3.863 No_date    29:44    22.73  n/a      .000
                         +      1.0 02:O-15            10.67       .385 No_date    28:13    23.43  n/a      .000
                      SUM=      1.0 01:M-C            483.00      3.921 No_date    29:44    22.75  n/a      .000
R0005:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL     ->      1.0 02:M-C            483.00      3.921 No_date    29:44    22.75  n/a      .000
       [RDT= 1.00] out<-        1.0 01:O-14Ch         483.00      3.787 No_date    30:06    22.75  n/a      .000
        [L/S/n=   845./  .100/.033]
        {Vmax=   .748:Dmax= 1.430}
R0005:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:O-14               5.00       .300 No_date    28:04    23.43 .410      .000
        [CN= 82.0:  N= 3.00:  Tp=   .13]
        [IaREC= 4.00:  SMIN= 23.09:  SMAX=153.94:  SK= .010]
        [InterEvent Time=   12.00]
R0005:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:O-14Ch         483.00      3.787 No_date    30:06    22.75  n/a      .000
                         +      1.0 02:O-14             5.00       .300 No_date    28:04    23.43  n/a      .000
                      SUM=      1.0 01:OKEEFE         488.00      3.807 No_date    30:06    22.75  n/a      .000
#*************************************************************************************
#     Okeefe Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#*************************************************************************************
R0005:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:S-1-D2            18.67      2.097 No_date    28:02    42.00 .735      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious       area:  IAper= 4.67:SLPP=2.00:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:S-1-D3             6.79       .831 No_date    28:01    42.00 .735      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious       area:  IAper= 4.67:SLPP=2.00:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                   1.0 02:N_OK         53064.36     67.912 No_date    34:06    18.33  n/a      .000
                         +      1.0 02:OKEEFE         488.00      3.807 No_date    30:06    22.75  n/a      .000
                         +      1.0 02:S-1-D2          18.67      2.097 No_date    28:02    42.00  n/a      .000
                         +      1.0 02:S-1-D3           6.79       .831 No_date    28:01    42.00  n/a      .000
                      SUM=      1.0 01:SN_OK        53577.82     69.277 No_date    34:06    18.39  n/a      .000
R0005:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                  1.0 01:SN_OK        53577.82     69.277 No_date    34:06    18.39  n/a      .000
        fname :SN_OK.0005
        remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0005:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL     ->      1.0 02:SN_OK        53577.82     69.277 No_date    34:06    18.39  n/a      .000
       [RDT= 1.00] out<-        1.0 01:N_FO         53577.82     68.998 No_date    34:22    18.39  n/a      .000
        [L/S/n= 1183./  .076/.035]
        {Vmax= 1.031:Dmax= 2.621}
#*************************************************************************************
#     Catchment FOSTER
#     - To Foster ditch (north of the Jock)
#     - Partially developed (medium density); remaining agricultural
#     - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#     - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#     - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#*************************************************************************************
R0005:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FOSTER           325.44     19.055 No_date    28:13    37.71 .660      .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious       area:  IAper= 4.67:SLPP= .50:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious     area:  IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=    .0]
        [IaRECimp=    4.00:  IaRECper=    4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#*************************************************************************************
#     Foster Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#*************************************************************************************
R0005:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->        1.0 02:FOSTER          325.44     19.055 No_date    28:13    37.71  n/a      .000
                    out  <=     1.0 01:P_FOS           325.44      5.174 No_date    29:08    37.71  n/a      .000
               overflow <=     1.0 03:FO-OVF             .00       .000 No_date     0:00      .00  n/a      .000
```

```
     {MkStoUsed=.5004E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:P_FOS          325.44     5.174 No_date   29:08   37.71  n/a      .000
                      +     1.0 02:FO-OVF            .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:FOSTER-OUT     325.44     5.174 No_date   29:08   37.71  n/a      .000
#**************************************************************************
R0005:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA      73.29     6.276 No_date   28:06   41.22 .722      .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0005:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:W_CLAR_BRA      73.29     6.276 No_date   28:06   41.22  n/a      .000
                  out <=    1.0 01:MS_P10          73.29     1.101 No_date   28:56   41.22  n/a      .000
             overflow <=    1.0 03:P10-OVF           .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.1093E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2        4.94      .508 No_date   28:01   37.71 .660      .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0005:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FOSTER-OUT     325.44     5.174 No_date   29:08   37.71  n/a      .000
                      +     1.0 02:S-1-FO-D2        4.94      .508 No_date   28:01   37.71  n/a      .000
                   SUM=     1.0 01:980            330.38     5.218 No_date   29:07   37.71  n/a      .000
R0005:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:980            330.38     5.218 No_date   29:07   37.71  n/a      .000
      fname :980.0005
      remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0005:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:980            330.38     5.218 No_date   29:07   37.71  n/a      .000
     [RDT= 1.00] out<-      1.0 01:980-out        330.38     5.061 No_date   29:14   37.71  n/a      .000
      [L/S/n=  460./ .043/.035]
      {Vmax=  .602:Dmax= 1.269}
R0005:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1        5.11      .605 No_date   28:00   41.68 .730      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0005:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:980-out        330.38     5.061 No_date   29:14   37.71  n/a      .000
                      +     1.0 02:S-1-FO-D1        5.11      .605 No_date   28:00   41.68  n/a      .000
                   SUM=     1.0 01:520            335.49     5.103 No_date   29:14   37.77  n/a      .000
R0005:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:520            335.49     5.103 No_date   29:14   37.77  n/a      .000
      fname :520.0005
      remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0005:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:520            335.49     5.103 No_date   29:14   37.77  n/a      .000
     [RDT= 1.00] out<-      1.0 01:520-out        335.49     5.054 No_date   29:26   37.77  n/a      .000
      [L/S/n=  860./ .587/.035]
      {Vmax= 1.318:Dmax=  .606}
R0005:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D      14.96     1.615 No_date   28:02   41.68 .730      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0005:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D8           5.27      .672 No_date   28:02   30.94 .542      .000
      [XIMP=.32:TIMP=.65]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-A           75.88     1.479 No_date   28:37   21.69 .380      .000
      [CN= 77.0:  N= 3.00:  Tp=  .62]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0005:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:W_CLAR_UND      35.65      .462 No_date   29:11   21.69 .380      .000
      [CN= 77.0:  N= 3.00:  Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0005:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N_FO         53577.82    68.998 No_date   34:22   18.39  n/a      .000
                      +     1.0 02:520-out        335.49     5.054 No_date   29:26   37.77  n/a      .000
                      +     1.0 02:MS_P10          73.29     1.101 No_date   28:56   41.22  n/a      .000
                      +     1.0 02:P10-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:W_CLAR_UND      35.65      .462 No_date   29:11   21.69  n/a      .000
                      +     1.0 02:S-1-FO-F-D      14.96     1.615 No_date   28:02   41.68  n/a      .000
                      +     1.0 02:S-1-D8           5.27      .672 No_date   28:02   30.94  n/a      .000
                      +     1.0 02:S-1-A           75.88     1.479 No_date   28:37   21.69  n/a      .000
                   SUM=     1.0 01:SN_FO        54118.36    71.813 No_date   33:54   18.55  n/a      .000
R0005:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:SN_FO        54118.36    71.813 No_date   33:54   18.55  n/a      .000
      fname :SN_FO.0005
      remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0005:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:SN_FO        54118.36    71.813 No_date   33:54   18.55  n/a      .000
 *   [RDT= 1.00] out<-      1.0 01:N_CE         54118.36    71.742 No_date   33:55   18.55  n/a      .000
      [L/S/n=  159./ .082/.035]
      {Vmax= 1.246:Dmax= 3.101}
#**************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#**************************************************************************
R0005:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-1-B           55.36     1.342 No_date   28:24   21.69 .380      .000
      [CN= 77.0:  N= 3.00:  Tp=  .45]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0005:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D1          21.67     2.409 No_date   28:02   42.00 .735      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D4           3.28      .421 No_date   28:00   42.00 .735      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D5          12.84     1.500 No_date   28:01   42.00 .735      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D6           1.75      .232 No_date   28:00   42.00 .735      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S-1-D7           2.03      .265 No_date   28:00   42.00 .735      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#**************************************************************************
R0005:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:W_CLAR_MI        1.77      .192 No_date   28:00   37.36 .654      .000
      [XIMP=.46:TIMP=.59]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0005:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:W_CLAR_MI        1.77      .192 No_date   28:00   37.36  n/a      .000
                  out <=    1.0 01:W_CLAR_MIn       1.77      .192 No_date   28:00   37.36  n/a      .000
             overflow <=    1.0 03:W_CLAR_MJj        .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.9116E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL     119.40    10.597 No_date   28:05   41.22 .722      .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0005:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:W_CLAR_ALL     119.40    10.597 No_date   28:05   41.22  n/a      .000
                      +     1.0 02:W_CLAR_MJj        .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:W_CLAR         119.40    10.597 No_date   28:05   41.22  n/a      .000
R0005:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:W_CLAR         119.40    10.597 No_date   28:05   41.22  n/a      .000
      fname :W_CLAR.0005
      remark:Total Flows to West Clarke
#**************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#**************************************************************************
R0005:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:W_CLAR         119.40    10.597 No_date   28:05   41.22  n/a      .000
                  out <=    1.0 01:MS_P2          119.40     1.795 No_date   28:54   41.22  n/a      .000
             overflow <=    1.0 03:P2-OVF            .00      .000 No_date    0:00     .00  n/a      .000
     {MkStoUsed=.2665E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#**************************************************************************
R0005:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N_CE         54118.36    71.742 No_date   33:55   18.55  n/a      .000
                      +     1.0 02:S-1-D4           3.28      .421 No_date   28:00   42.00  n/a      .000
                      +     1.0 02:S-1-D5          12.84     1.500 No_date   28:01   42.00  n/a      .000
                      +     1.0 02:MS_P2          119.40     1.795 No_date   28:54   41.22  n/a      .000
                      +     1.0 02:P2-OVF            .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:SN_CE        54253.88    72.490 No_date   33:54   18.61  n/a      .000
R0005:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:SN_CE        54253.88    72.490 No_date   33:54   18.61  n/a      .000
      fname :SN_CE.0005
      remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0005:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:SN_CE        54253.88    72.490 No_date   33:54   18.61  n/a      .000
 *   [RDT= 1.00] out<-      1.0 01:5737         54253.88    69.289 No_date   36:45   18.61  n/a      .000
      [L/S/n=  270./ .018/.035]
      {Vmax=  .686:Dmax= 4.073}
R0005:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:5737         54253.88    69.289 No_date   36:45   18.61  n/a      .000
                      +     1.0 02:S-1-D1          21.67     2.409 No_date   28:02   42.00  n/a      .000
                      +     1.0 02:S-1-D6           1.75      .232 No_date   28:00   42.00  n/a      .000
                      +     1.0 02:S-1-D7           2.03      .265 No_date   28:00   42.00  n/a      .000
                   SUM=     1.0 01:5002         54279.33    69.330 No_date   36:43   18.62  n/a      .000
R0005:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:5002         54279.33    69.330 No_date   36:43   18.62  n/a      .000
      fname :5002.0005
      remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0005:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:5002         54279.33    69.330 No_date   36:43   18.62  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N_WCa        54279.33    69.338 No_date   36:38   18.62  n/a      .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.066:Dmax= 2.317}
R0005:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:N_WCa        54279.33    69.338 No_date   36:38   18.62  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N_WCb        54279.33    69.347 No_date   36:34   18.62  n/a      .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.066:Dmax= 2.317}
R0005:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:N_WCb        54279.33    69.347 No_date   36:34   18.62  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N_WC         54279.33    69.562 No_date   36:09   18.62  n/a      .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.067:Dmax= 2.317}
#**************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0005:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:N_WC         54279.33    69.562 No_date   36:09   18.62  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N_KB         54279.33    69.259 No_date   36:50   18.62  n/a      .000
      [L/S/n= 1020./ .050/.035]
      {Vmax=  .944:Dmax= 2.851}
#**************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#**************************************************************************
#**************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#**************************************************************************
R0005:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-01A          40.82     2.624 No_date   28:14   20.08 .351      .000
      [XIMP=.10:TIMP=.40]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-01A          40.82     2.624 No_date   28:14   20.08  n/a      .000
     Major System  /        1.0 02:KB-01A-MJ         .00      .000 No_date    0:00     .00  n/a      .000
     Minor System  \        1.0 03:KB-01A-MN       40.82     2.624 No_date   28:14   20.08  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-01A-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:KB-01A-MN       40.82     2.624 No_date   28:14   20.08  n/a      .000
                   SUM=     1.0 01:KB-01A-S        40.82     2.624 No_date   28:14   20.08  n/a      .000
R0005:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-01B          31.10     1.779 No_date   28:08   22.42 .393      .000
      [XIMP=.19:TIMP=.38]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-01B          31.10     1.779 No_date   28:08   22.42  n/a      .000
     Major System  /        1.0 02:KB-01B-MJ         .00      .000 No_date    0:00     .00  n/a      .000
     Minor System  \        1.0 03:KB-01B-MN       31.10     1.585 No_date   28:03   22.52  n/a      .000
      {MjSysSto=.1530E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-01B-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:KB-01B-MN       31.10     1.585 No_date   28:03   22.52  n/a      .000
                   SUM=     1.0 01:KB-01B-S        31.10     1.585 No_date   28:03   22.52  n/a      .000
R0005:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-01C          13.78     1.235 No_date   28:05   23.43 .410      .000
      [XIMP=.20:TIMP=.41]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-01C          13.78     1.235 No_date   28:05   23.43  n/a      .000
     Major System  /        1.0 02:KB-01C-MJ         .00      .000 No_date    0:00     .00  n/a      .000
     Minor System  \        1.0 03:KB-01C-MN       13.78     1.235 No_date   28:05   23.43  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-01C-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:KB-01C-MN       13.78     1.235 No_date   28:05   23.43  n/a      .000
                   SUM=     1.0 01:KB-01C-S        13.78     1.235 No_date   28:05   23.43  n/a      .000
R0005:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-03           84.78     6.180 No_date   28:10   22.99 .402      .000
      [XIMP=.20:TIMP=.39]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-03           84.78     6.180 No_date   28:10   22.99  n/a      .000
     Major System  /        1.0 02:KB-03-MJ          .00      .000 No_date    0:00     .00  n/a      .000
     Minor System  \        1.0 03:KB-03-MN        84.78     5.270 No_date   28:03   23.12  n/a      .000
      {MjSysSto=.5145E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-03-MJ          .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:KB-03-MN        84.78     5.270 No_date   28:03   23.12  n/a      .000
                   SUM=     1.0 01:KB-03-S         84.78     5.270 No_date   28:03   23.12  n/a      .000
R0005:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-04            6.95     1.043 No_date   28:01   49.53 .867      .000
      [XIMP=.85:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-04            6.95     1.043 No_date   28:01   49.53  n/a      .000
     Major System  /        1.0 02:KB-04-MJ          .00      .000 No_date    0:00     .00  n/a      .000
     Minor System  \        1.0 03:KB-04-MN         6.95      .503 No_date   27:48   49.78  n/a      .000
      {MjSysSto=.3742E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-04-MJ          .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:KB-04-MN         6.95      .503 No_date   27:48   49.78  n/a      .000
                   SUM=     1.0 01:KB-04-S          6.95      .503 No_date   27:48   49.78  n/a      .000
R0005:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-05            5.19      .855 No_date   28:00   52.49 .919      .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-06           12.93     2.190 No_date   28:00   50.55 .885      .000
      [XIMP=.87:TIMP=.87]
```

```
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-06          12.93     2.190 No_date   28:00   50.55  n/a     .000
     Major System   /       1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:KB-06-MN       12.93     2.190 No_date   28:00   50.55  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:KB-06-MN       12.93     2.190 No_date   28:00   50.55  n/a     .000
                  SUM=      1.0 01:KB-06-S        12.93     2.190 No_date   28:00   50.55  n/a     .000
R0005:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-11           4.03      .584 No_date   28:00   41.88 .733     .000
        [XIMP=.68:TIMP=.68]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-11           4.03      .584 No_date   28:00   41.88  n/a     .000
     Major System   /       1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:KB-11-MN        4.03      .577 No_date   28:00   41.89  n/a     .000
        {MjSysSto=.4277E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:KB-11-MN        4.03      .577 No_date   28:00   41.89  n/a     .000
                  SUM=      1.0 01:KB-11-S         4.03      .577 No_date   28:00   41.89  n/a     .000
R0005:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:S1              4.99      .892 No_date   28:00   52.49 .919     .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-15           2.15      .321 No_date   28:00   47.49 .831     .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-01A-S       40.82     2.624 No_date   28:14   20.08  n/a     .000
                     +      1.0 02:KB-01B-S       31.10     1.585 No_date   28:03   22.52  n/a     .000
                     +      1.0 02:KB-01C-S       13.78     1.235 No_date   28:05   23.43  n/a     .000
                     +      1.0 02:KB-03-S        84.78     5.270 No_date   28:03   23.12  n/a     .000
                     +      1.0 02:KB-04-S         6.95      .503 No_date   27:48   49.78  n/a     .000
                     +      1.0 02:KB-05           5.19      .855 No_date   28:00   52.49  n/a     .000
                     +      1.0 02:KB-06-S        12.93     2.190 No_date   28:00   50.55  n/a     .000
                     +      1.0 02:KB-11-S         4.03      .577 No_date   28:00   41.89  n/a     .000
                     +      1.0 02:KB-15           2.15      .321 No_date   28:00   47.49  n/a     .000
                     +      1.0 02:S1              4.99      .892 No_date   28:00   52.49  n/a     .000
                  SUM=      1.0 01:KB-P1         206.72    14.564 No_date   28:02   27.13  n/a     .000
R0005:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:KB-P1         206.72    14.564 No_date   28:02   27.13  n/a     .000
                 out <=     1.0 01:KB-P1R        206.72    11.746 No_date   28:15   27.13  n/a     .000
            overflow <=     1.0 03:KB-P1ovf         .00      .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.5868E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-P1R        206.72    11.746 No_date   28:15   27.13  n/a     .000
                     +      1.0 02:KB-P1ovf         .00      .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:KB-Pond1      206.72    11.746 No_date   28:15   27.13  n/a     .000
R0005:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:KB-Pond1      206.72    11.746 No_date   28:15   27.13  n/a     .000
        fname :KB-Pond1.0005
        remark:Total Flows at KB first pond
R0005:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-07          10.86     1.770 No_date   28:00   50.11 .877     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-07          10.86     1.770 No_date   28:00   50.11  n/a     .000
     Major System   /       1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:KB-07-MN       10.86     1.770 No_date   28:00   50.11  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:KB-07-MN       10.86     1.770 No_date   28:00   50.11  n/a     .000
                  SUM=      1.0 01:KB-07-S        10.86     1.770 No_date   28:00   50.11  n/a     .000
R0005:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-08           6.61      .900 No_date   28:00   40.32 .706     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-08           6.61      .900 No_date   28:00   40.32  n/a     .000
     Major System   /       1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:KB-08-MN        6.61      .900 No_date   28:00   40.32  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:KB-08-MN        6.61      .900 No_date   28:00   40.32  n/a     .000
                  SUM=      1.0 01:KB-08-S         6.61      .900 No_date   28:00   40.32  n/a     .000
R0005:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-09           2.60      .448 No_date   28:00   49.44 .865     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-10_1         2.37      .409 No_date   28:00   49.44 .865     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-10_2         1.14      .199 No_date   28:00   49.44 .865     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-12           4.86      .777 No_date   28:00   46.75 .818     .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-12           4.86      .777 No_date   28:00   46.75  n/a     .000
     Major System   /       1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:KB-12-MN        4.86      .777 No_date   28:00   46.75  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:KB-12-MN        4.86      .777 No_date   28:00   46.75  n/a     .000
                  SUM=      1.0 01:KB-12-S         4.86      .777 No_date   28:00   46.75  n/a     .000
R0005:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-13          10.19     1.364 No_date   28:00   40.32 .706     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-13          10.19     1.364 No_date   28:00   40.32  n/a     .000
     Major System   /       1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:KB-13-MN       10.19     1.364 No_date   28:00   40.32  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:KB-13-MN       10.19     1.364 No_date   28:00   40.32  n/a     .000
                  SUM=      1.0 01:KB-13-S        10.19     1.364 No_date   28:00   40.32  n/a     .000
R0005:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-14           5.47      .756 No_date   28:00   40.32 .706     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:KB-14           5.47      .756 No_date   28:00   40.32  n/a     .000
     Major System   /       1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:KB-14-MN        5.47      .756 No_date   28:00   40.32  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:KB-14-MN        5.47      .756 No_date   28:00   40.32  n/a     .000
                  SUM=      1.0 01:KB-14-S         5.47      .756 No_date   28:00   40.32  n/a     .000
R0005:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-16_2         3.42      .462 No_date   28:01   43.88 .768     .000
        [XIMP=.71:TIMP=.71]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-Pond1      206.72    11.746 No_date   28:15   27.13  n/a     .000
                     +      1.0 02:KB-07-S        10.86     1.770 No_date   28:00   50.11  n/a     .000
                     +      1.0 02:KB-08-S         6.61      .900 No_date   28:00   40.32  n/a     .000
                     +      1.0 02:KB-09           2.60      .448 No_date   28:00   49.44  n/a     .000
                     +      1.0 02:KB-10_1         2.37      .409 No_date   28:00   49.43  n/a     .000
                     +      1.0 02:KB-10_2         1.14      .199 No_date   28:00   49.44  n/a     .000
                     +      1.0 02:KB-12-S         4.86      .777 No_date   28:00   46.75  n/a     .000
                     +      1.0 02:KB-13-S        10.19     1.364 No_date   28:00   40.32  n/a     .000
                     +      1.0 02:KB-14-S         5.47      .756 No_date   28:00   40.32  n/a     .000
                     +      1.0 02:KB-16_2         3.42      .462 No_date   28:01   43.88  n/a     .000
                  SUM=      1.0 01:KB-P2         254.24    16.750 No_date   28:01   30.40  n/a     .000
R0005:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:KB-P2         254.24    16.750 No_date   28:01   30.40  n/a     .000
                 out <=     1.0 01:KB-P2R        254.24    13.525 No_date   28:14   30.40  n/a     .000
            overflow <=     1.0 03:KB-P2ovf         .00      .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.6552E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-P2R        254.24    13.525 No_date   28:14   30.40  n/a     .000
                     +      1.0 02:KB-P2ovf         .00      .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:KB-Pond2      254.24    13.525 No_date   28:14   30.40  n/a     .000
R0005:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:KB-Pond2      254.24    13.525 No_date   28:14   30.40  n/a     .000
        fname :KB-Pond2.0005
        remark:Total Flows at KB second pond
R0005:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-16_1         2.80      .398 No_date   28:01   45.69 .800     .000
        [XIMP=.75:TIMP=.75]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-Pond2      254.24    13.525 No_date   28:14   30.40  n/a     .000
                     +      1.0 02:KB-16_1         2.80      .398 No_date   28:01   45.69  n/a     .000
                  SUM=      1.0 01:KB-P3         257.04    13.655 No_date   28:13   30.57  n/a     .000
R0005:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:KB-P3         257.04    13.655 No_date   28:13   30.57  n/a     .000
                 out <=     1.0 01:KB-P3R         14.18      .051 No_date   17:43   30.57  n/a     .000
            overflow <=     1.0 03:KB-P3ovf      242.86    13.603 No_date   28:13   30.57  n/a     .000
       {MxStoUsed=.1998E-02  m3,  TotOvfVol=.7424E+01  m3,  N-Ovf=    2,  TotDurOvf=   23.hrs}
R0005:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-P3R         14.18      .051 No_date   17:43   30.57  n/a     .000
                     +      1.0 02:KB-P3ovf      242.86    13.603 No_date   28:13   30.57  n/a     .000
                  SUM=      1.0 01:KB-Pond3      257.04    13.654 No_date   28:13   30.57  n/a     .000
R0005:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:KB-Pond3      257.04    13.654 No_date   28:13   30.57  n/a     .000
        fname :KB-Pond3.0005
        remark:Total Flows at KB third pond
#***********************************************************************************
#     EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#     - TO FRASER-CLARKE DRAIN
#***********************************************************************************
R0005:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FC-01           8.03      .865 No_date   28:01   32.39 .567     .000
        [XIMP=.47:TIMP=.47]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FC-01           8.03      .865 No_date   28:01   32.39  n/a     .000
     Major System   /       1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:FC-01-MN        8.03      .756 No_date   27:58   32.40  n/a     .000
        {MjSysSto=.2912E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:FC-01-MN        8.03      .756 No_date   27:58   32.40  n/a     .000
                  SUM=      1.0 01:FC-01-S         8.03      .756 No_date   27:58   32.40  n/a     .000
R0005:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FC-02          16.05     2.547 No_date   28:01   52.49 .919     .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FC-02          16.05     2.547 No_date   28:01   52.49  n/a     .000
     Major System   /       1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:FC-02-MN       16.05     1.159 No_date   27:47   52.68  n/a     .000
        {MjSysSto=.1011E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:FC-02-MN       16.05     1.159 No_date   27:47   52.68  n/a     .000
                  SUM=      1.0 01:FC-02-S        16.05     1.159 No_date   27:47   52.68  n/a     .000
R0005:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FC-03           7.37      .956 No_date   28:01   39.82 .697     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FC-03           7.37      .956 No_date   28:01   39.82  n/a     .000
     Major System   /       1.0 02:FC-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:FC-03-MN        7.37      .358 No_date   27:45   39.85  n/a     .000
        {MjSysSto=.4806E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FC-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:FC-03-MN        7.37      .358 No_date   27:45   39.85  n/a     .000
                  SUM=      1.0 01:FC-03-S         7.37      .358 No_date   27:45   39.85  n/a     .000
R0005:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FC-04          12.87     1.600 No_date   28:01   39.82 .697     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FC-04          12.87     1.600 No_date   28:01   39.82  n/a     .000
     Major System   /       1.0 02:FC-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:FC-04-MN       12.87      .741 No_date   27:48   39.85  n/a     .000
        {MjSysSto=.6277E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FC-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:FC-04-MN       12.87      .741 No_date   27:48   39.85  n/a     .000
                  SUM=      1.0 01:FC-04-S        12.87      .741 No_date   27:48   39.85  n/a     .000
#***********************************************************************************
#     PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#     - TO JOCK RIVER
#***********************************************************************************
R0005:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:JR-01           8.24     1.064 No_date   28:01   39.82 .697     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:JR-01           8.24     1.064 No_date   28:01   39.82  n/a     .000
     Major System   /       1.0 02:JR-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:JR-01-MN        8.24      .563 No_date   28:29   40.05  n/a     .000
        {MjSysSto=.3052E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:JR-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:JR-01-MN        8.24      .563 No_date   27:50   40.05  n/a     .000
                  SUM=      1.0 01:JR-01-S         8.24      .563 No_date   27:50   40.05  n/a     .000
R0005:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:JR-02           1.59      .224 No_date   28:00   39.82 .697     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:JR-02           1.59      .224 No_date   28:00   39.82  n/a     .000
     Major System   /       1.0 02:JR-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:JR-02-MN        1.59      .153 No_date   27:53   40.12  n/a     .000
        {MjSysSto=.2948E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:JR-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:JR-02-MN        1.59      .153 No_date   27:53   40.12  n/a     .000
                  SUM=      1.0 01:JR-02-S         1.59      .153 No_date   27:53   40.12  n/a     .000
#***********************************************************************************
#     Catchment FRASER
#     - To Fraser-Clarke drain (north of the Jock)
#     - Developed land with assumed 43% imp.
#     - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#     - 2020-12-17 All Fraser is undeveloped (Nashyd)
#***********************************************************************************
R0005:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:FRASER-DRN     13.65      .345 No_date   28:22   21.69 .380     .000
        [CN= 77.0: N= 3.00: Tp=  .43]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0005:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FRASER-D       21.61     2.281 No_date   28:02   40.72 .713     .000
        [XIMP=.58:TIMP=.58]
        [LOSS= 2 :CN= 80.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 26.32: SMAX=175.50: SK= .010]
R0005:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FRASER-D       21.61     2.281 No_date   28:02   40.72  n/a     .000
     Major System   /       1.0 02:FRASER-J         .00      .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:FRASER-N       21.61     2.281 No_date   28:02   40.73  n/a     .000
        {MjSysSto=.2000E-01,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0005:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FRASER-J         .00      .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:FRASER-N       21.61     2.281 No_date   28:02   40.73  n/a     .000
                  SUM=      1.0 01:FRASER-S       21.61     2.281 No_date   28:02   40.73  n/a     .000
R0005:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-Pond3      257.04    13.654 No_date   28:13   30.57  n/a     .000
                     +      1.0 02:S-1-B          55.36     1.342 No_date   28:24   21.69  n/a     .000
                     +      1.0 02:FRASER-DRN     13.65      .345 No_date   28:22   21.69  n/a     .000
                     +      1.0 02:FRASER-S       21.61     2.281 No_date   28:02   40.73  n/a     .000
                     +      1.0 02:N_KB        54279.33    69.259 No_date   36:50   18.62  n/a     .000
                     +      1.0 02:FC-01-S         8.03      .756 No_date   27:58   32.40  n/a     .000
                     +      1.0 02:FC-02-S        16.05     1.159 No_date   27:47   52.68  n/a     .000
                     +      1.0 02:FC-03-S         7.37      .358 No_date   27:45   39.85  n/a     .000
                  SUM=      1.0 01:4241        54658.44    69.643 No_date   36:50   18.70  n/a     .000
R0005:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:4241        54658.44    69.643 No_date   36:50   18.70  n/a     .000
        fname :4241.0005
        remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
```

```
#
R0005:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:4241          54658.44   69.643 No_date   36:50   18.70  n/a     .000
      [RDT= 1.00] out<-     1.0 01:4241-out      54658.44   69.650 No_date   36:38   18.70  n/a     .000
        [L/S/n=  294./ .109/.035]
        {Vmax= 1.095:Dmax= 1.826}
R0005:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:4241-out      54658.44   69.650 No_date   36:38   18.70  n/a     .000
                     +      1.0 02:FC-04-S          12.87     .741 No_date   27:48   39.85  n/a     .000
                     +      1.0 02:JR-01-S           8.24     .563 No_date   27:50   40.05  n/a     .000
                     +      1.0 02:JR-02-S           1.59     .153 No_date   27:53   40.12  n/a     .000
                  SUM=      1.0 01:SN_KB         54681.13   69.678 No_date   36:38   18.71  n/a     .000
R0005:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_KB         54681.13   69.678 No_date   36:38   18.71  n/a     .000
        fname :SN_KB.0005
        remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0005:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_KB         54681.13   69.678 No_date   36:38   18.71  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_TO          54681.13   69.666 No_date   36:51   18.71  n/a     .000
        [L/S/n=  608./ .247/.035]
        {Vmax= 1.446:Dmax= 1.371}
#****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#****************************************************************************
R0005:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Greenbank        36.60    3.925 No_date   28:02   42.59 .745     .000
        [XIMP=.64:TIMP=.68]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0005:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Greenbank        36.60    3.925 No_date   28:02   42.59  n/a     .000
                  out <=    1.0 01:GreenB_MN        36.60     .811 No_date   28:35   42.58  n/a     .000
             overflow <=    1.0 03:GreenB_MJ          .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.7695E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_TO          54681.13   69.666 No_date   36:51   18.71  n/a     .000
                     +      1.0 02:GreenB_MJ          .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:GreenB_MN        36.60     .811 No_date   28:35   42.58  n/a     .000
                  SUM=      1.0 01:GreenB        54717.73   69.773 No_date   36:51   18.73  n/a     .000
R0005:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:GreenB        54717.73   69.773 No_date   36:51   18.73  n/a     .000
        fname :GreenB.0005
        remark:Total Flows at Greenbank Drain
#****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MI") and remove it from Todd
R0005:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN2          2.10     .239 No_date   28:00   38.41 .672     .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0005:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN3           .12     .014 No_date   28:00   38.39 .672     .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0005:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MJ          30.23    2.959 No_date   28:02   39.47 .691     .000
        [XIMP=.52:TIMP=.64]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0005:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_ALL        112.91    9.069 No_date   28:05   38.19 .669     .000
        [XIMP=.52:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0005:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_P            3.06     .385 No_date   28:00   41.58 .728     .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0005:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MJ          30.23    2.959 No_date   28:02   39.47  n/a     .000
 *                out <=    1.0 01:TODD_MJn         30.23    2.959 No_date   28:02   39.47  n/a     .000
             overflow <=    1.0 03:TODD_MJj           .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.8948E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0005:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN2          2.10     .239 No_date   28:00   38.41  n/a     .000
                  out <=    1.0 01:TODD_MN2n         2.10     .238 No_date   28:00   38.41  n/a     .000
             overflow <=    1.0 03:TODD_MN2j          .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.8965E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN3           .12     .014 No_date   28:00   38.39  n/a     .000
                  out <=    1.0 01:TODD_MN3n          .12     .014 No_date   28:00   38.39  n/a     .000
             overflow <=    1.0 03:TODD_MN3j          .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.8651E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A2               25.50    1.991 No_date   28:03   34.66 .607     .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A2               25.50    1.991 No_date   28:03   34.66  n/a     .000
      Major System   /      1.0 02:A2-MJ              .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A2-MN            25.50    1.818 No_date   28:00   34.70  n/a     .000
       {MJSysSto=.5163E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:TODD_MN2n         2.10     .238 No_date   28:00   38.41  n/a     .000
                     +      1.0 02:TODD_MN3n          .12     .014 No_date   28:00   38.39  n/a     .000
                     +      1.0 02:TODD_MJj           .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:TODD_P            3.06     .385 No_date   28:00   41.58  n/a     .000
                     +      1.0 02:TODD_ALL        112.91    9.069 No_date   28:05   38.19  n/a     .000
                     +      1.0 02:W_CLAR_MIn        1.77     .192 No_date   28:00   37.36  n/a     .000
                  SUM=      1.0 01:TODD            119.95    9.538 No_date   28:04   38.27  n/a     .000
R0005:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:TODD            119.95    9.538 No_date   28:04   38.27  n/a     .000
        fname :TODD.0005
        remark:Total Flows at Todd Drain
#****************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#****************************************************************************
R0005:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD            119.95    9.538 No_date   28:04   38.27  n/a     .000
                  out <=    1.0 01:MS_P3           119.95    3.765 No_date   28:29   38.27  n/a     .000
             overflow <=    1.0 03:P3-OVF             .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.2351E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:GreenB        54717.73   69.773 No_date   36:51   18.73  n/a     .000
                     +      1.0 02:MS_P3           119.95    3.765 No_date   28:29   38.27  n/a     .000
                     +      1.0 02:P3-OVF             .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:TODD_MN2j          .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:A2-MJ              .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:SN_TO         54837.69   69.979 No_date   36:50   18.77  n/a     .000
R0005:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_TO         54837.69   69.979 No_date   36:50   18.77  n/a     .000
        fname :SN_TO.0005
        remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0005:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_TO         54837.69   69.979 No_date   36:50   18.77  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:N_TO          54837.69   69.906 No_date   37:02   18.77  n/a     .000
        [L/S/n=  280./ .050/.045]
        {Vmax=  .826:Dmax= 2.561}
R0005:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:N_TO          54837.69   69.906 No_date   37:02   18.77  n/a     .000
        fname :N_TO.0005
        remark:Total inflows at Station 2462
#****************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#****************************************************************************
R0005:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:corr1            15.87    1.806 No_date   28:01   41.58 .728     .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0005:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:corr1            15.87    1.806 No_date   28:01   41.58  n/a     .000
      Major System   /      1.0 02:corr1-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:corr1-MN         15.87    1.806 No_date   28:01   41.58  n/a     .000
       {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:corr2            12.47     .161 No_date   29:11   21.69 .380     .000
        [CN= 77.0:  N= 3.00:  Tp= 1.10]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
R0005:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A1-Corrig        15.75    1.357 No_date   28:02   34.66 .607     .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A1-Corrig        15.75    1.357 No_date   28:02   34.66  n/a     .000
      Major System   /      1.0 02:A1-MJ              .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A1-MN            15.75    1.357 No_date   28:02   34.66  n/a     .000
       {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:B1                2.77     .055 No_date   28:09   13.56 .237     .000
        [CN= 56.0:  N= 3.00:  Tp=  .23]
        [IaREC= 4.00:  SMIN= 79.69:  SMAX=531.24:  SK= .010]
        [InterEventTime=  12.00]
R0005:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A4                1.27     .153 No_date   28:00   42.00 .735     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A4                1.27     .153 No_date   28:00   42.00  n/a     .000
      Major System   /      1.0 02:A4-MJ              .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A4-MN             1.27     .153 No_date   28:00   42.00  n/a     .000
       {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A1-MJ              .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:A1-MN            15.75    1.357 No_date   28:02   34.66  n/a     .000
                     +      1.0 02:corr1-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:corr1-MN         15.87    1.806 No_date   28:01   41.58  n/a     .000
                     +      1.0 02:corr2            12.47     .161 No_date   29:11   21.69  n/a     .000
                     +      1.0 02:B1                2.77     .055 No_date   28:09   13.56  n/a     .000
                     +      1.0 02:A4-MN             1.27     .153 No_date   28:00   42.00  n/a     .000
                  SUM=      1.0 01:MH101            48.13    3.389 No_date   28:01   32.56  n/a     .000
R0005:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH101            48.13    3.389 No_date   28:01   32.56  n/a     .000
        fname :MH101.0005
        remark:Total Flows at MH101
R0005:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH101            48.13    3.389 No_date   28:01   32.56  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:101-102          48.13    3.277 No_date   28:03   32.56  n/a     .000
        [L/S/n=  368./ .540/.013]
        {Vmax= 3.010:Dmax= 1.049}
        [Din= 1.05:Dused= 1.28}
R0005:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A2-MN            25.50    1.818 No_date   28:00   34.70  n/a     .000
                     +      1.0 02:101-102          48.13    3.277 No_date   28:03   32.56  n/a     .000
                  SUM=      1.0 01:MH102            73.63    5.095 No_date   28:03   33.30  n/a     .000
R0005:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH102            73.63    5.095 No_date   28:03   33.30  n/a     .000
        fname :MH102.0005
        remark:Total Flows at MH102
R0005:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A5                1.60     .202 No_date   28:01   44.32 .776     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A4-MJ              .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:A5                1.60     .202 No_date   28:01   44.32  n/a     .000
                  SUM=      1.0 01:A5T               1.60     .202 No_date   28:01   44.32  n/a     .000
R0005:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A5T               1.60     .202 No_date   28:01   44.32  n/a     .000
      Major System   /      1.0 02:A5-MJ              .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A5-MN             1.60     .202 No_date   28:01   44.32  n/a     .000
       {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH102            73.63    5.095 No_date   28:03   33.30  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:102-103          73.63    4.821 No_date   28:05   33.30  n/a     .000
        [L/S/n=  504./ .280/.013]
        {Vmax= 2.606:Dmax= 1.382}
        [Din= 1.50:Dused= 1.68}
R0005:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:102-103          73.63    4.821 No_date   28:05   33.30  n/a     .000
                     +      1.0 02:A5-MN             1.60     .202 No_date   28:01   44.32  n/a     .000
                  SUM=      1.0 01:MH103            75.23    4.991 No_date   28:04   33.53  n/a     .000
R0005:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH103            75.23    4.991 No_date   28:04   33.53  n/a     .000
        fname :MH103.0005
        remark:Total Flows at MH103
R0005:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH103            75.23    4.991 No_date   28:04   33.53  n/a     .000
      [RDT= 1.00] out<-     1.0 01:103-104          75.23    4.875 No_date   28:06   33.53  n/a     .000
        [L/S/n=  438./ .460/.013]
        {Vmax= 3.219:Dmax= 1.124}
        [Din= 1.65:Dused= 1.65}
R0005:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A6                1.56     .200 No_date   28:01   44.32 .776     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A5-MJ              .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:A6                1.56     .200 No_date   28:01   44.32  n/a     .000
                  SUM=      1.0 01:A6T               1.56     .200 No_date   28:01   44.32  n/a     .000
R0005:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A6T               1.56     .200 No_date   28:01   44.32  n/a     .000
      Major System   /      1.0 02:A6-MJ              .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A6-MN             1.56     .200 No_date   28:01   44.32  n/a     .000
       {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A6-MN             1.56     .200 No_date   28:01   44.32  n/a     .000
                     +      1.0 02:103-104          75.23    4.875 No_date   28:06   33.53  n/a     .000
                     +      1.0 02:TODD_MJn         30.23    2.959 No_date   28:02   39.47  n/a     .000
                  SUM=      1.0 01:MH104           107.02    7.823 No_date   28:04   35.37  n/a     .000
R0005:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH104           107.02    7.823 No_date   28:04   35.37  n/a     .000
        fname :MH104.0005
        remark:Total Flows at MH104
R0005:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B2               12.31    1.023 No_date   28:02   34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B2               12.31    1.023 No_date   28:02   34.82  n/a     .000
      Major System   /      1.0 02:B2-MJ              .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:B2-MN            12.31    1.023 No_date   28:02   34.82  n/a     .000
       {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:B2-MN            12.31    1.023 No_date   28:02   34.82  n/a     .000
      [RDT= 1.00] out<-     1.0 01:315-333          12.31     .941 No_date   28:04   34.82  n/a     .000
        [L/S/n=  254./ .100/.013]
        {Vmax= 1.219:Dmax=  .834}
        [Din= 1.20:Dused= 1.20}
R0005:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B3                5.59     .477 No_date   28:02   34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0005:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B3                5.59     .477 No_date   28:02   34.82  n/a     .000
      Major System   /      1.0 02:B3-MJ              .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:B3-MN             5.59     .459 No_date   28:00   34.87  n/a     .000
       {MJSysSto=.3219E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B3-MN             5.59     .459 No_date   28:00   34.87  n/a     .000
                     +      1.0 02:315-333          12.31     .941 No_date   28:04   34.82  n/a     .000
                  SUM=      1.0 01:MH333            17.90    1.400 No_date   28:04   34.84  n/a     .000
R0005:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH333            17.90    1.400 No_date   28:04   34.84  n/a     .000
        fname :MH333.0005
        remark:Total Flows at MH333
R0005:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH333            17.90    1.400 No_date   28:04   34.84  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:333-335          17.90    1.320 No_date   28:06   34.84  n/a     .000
        [L/S/n=  251./ .100/.013]
        {Vmax= 1.282:Dmax= 1.033}
        [Din= 1.20:Dused= 1.26}
R0005:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:333-335          17.90    1.320 No_date   28:06   34.84  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:335-338          17.90    1.265 No_date   28:06   34.84  n/a     .000
        [L/S/n=  185./ .100/.013]
        {Vmax= 1.264:Dmax= 1.010}
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04863>        [Din= 1.20:Dused= 1.23}
04864> R0005:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04865>     ROUTE PIPE      ->     1.0 02:335-338        17.90     1.265 No_date   28:06    34.84  n/a      .000
04866>      [RDT= 1.00] out<-     1.0 01:338-340        17.90     1.183 No_date   28:06    34.84  n/a      .000
04867>       [L/S/n=  233./ .100/.013]
04868>       {Vmax= 1.294:Dmax=  .872}
04869>       [Din= 1.35:Dused= 1.35}
04870> R0005:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04871>     CONTINUOUS STANDHYD  1.0 01:B4                7.60      .638 No_date   28:02    34.82 .610      .000
04872>       [XIMP=.41:TIMP=.54]
04873>       [LOSS= 2 :CN= 75.0]
04874>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04875>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
04876>       [IaRECimp=   4.00: IaRECper=   4.00]
04877>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
04878> R0005:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04879>     COMPUTE DUALHYD        1.0 01:B4                7.60      .638 No_date   28:02    34.82  n/a      .000
04880>      Major System   /      1.0 02:B4-MJ              .00      .000 No_date    0:00      .00  n/a      .000
04881>      Minor System   \      1.0 03:B4-MN             7.60      .638 No_date   28:02    34.82  n/a      .000
04882>       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
04883> R0005:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04884>     ADD HYD                1.0 02:338-340        17.90     1.183 No_date   28:06    34.84  n/a      .000
04885>                    +       1.0 02:B4-MN             7.60      .638 No_date   28:02    34.82  n/a      .000
04886>                 SUM=       1.0 01:MH340          25.50     1.761 No_date   28:05    34.83  n/a      .000
04887> R0005:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04888>     SAVE HYD               1.0 01:MH340          25.50     1.761 No_date   28:05    34.83  n/a      .000
04889>       fname :MH340.0005
04890>       remark:Total Flows at MH340
04891> R0005:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04892>     ROUTE PIPE      ->     1.0 02:MH340          25.50     1.761 No_date   28:05    34.83  n/a      .000
04893>      [RDT= 1.00] out<-     1.0 01:340-104        25.50     1.698 No_date   28:06    34.83  n/a      .000
04894>       [L/S/n=  240./ .150/.013]
04895>       {Vmax= 1.648:Dmax=  .823}
04896>       [Din= 1.65:Dused= 1.65}
04897> R0005:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04898>     ADD HYD                1.0 02:340-104        25.50     1.698 No_date   28:06    34.83  n/a      .000
04899>                    +       1.0 02:MH104         107.02     7.823 No_date   28:04    35.37  n/a      .000
04900>                 SUM=       1.0 01:MH104T        132.52     9.463 No_date   28:04    35.27  n/a      .000
04901> R0005:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04902>     ROUTE PIPE      ->     1.0 02:MH104T        132.52     9.463 No_date   28:04    35.27  n/a      .000
04903>  *   [RDT= 1.00] out<-     1.0 01:104-105       132.52     8.848 No_date   28:06    35.27  n/a      .000
04904>       [L/S/n=  380./ .100/.013]
04905>       {Vmax= 2.012:Dmax= 1.868}
04906>       {HGTH= 2.20:WDTH= 2.52}
04907> R0005:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04908>     CONTINUOUS STANDHYD  1.0 01:B5                2.20      .248 No_date   28:00    38.90 .681      .000
04909>       [XIMP=.57:TIMP=.57]
04910>       [LOSS= 2 :CN= 75.0]
04911>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04912>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
04913>       [IaRECimp=   4.00: IaRECper=   4.00]
04914>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
04915> R0005:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04916>     COMPUTE DUALHYD        1.0 01:B5                2.20      .248 No_date   28:00    38.90  n/a      .000
04917>      Major System   /      1.0 02:B5-MJ              .00      .000 No_date    0:00      .00  n/a      .000
04918>      Minor System   \      1.0 03:B5-MN             2.20      .248 No_date   28:00    38.90  n/a      .000
04919>       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
04920> R0005:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04921>     CONTINUOUS STANDHYD  1.0 01:A8                 .96      .130 No_date   28:00    44.32 .776      .000
04922>       [XIMP=.71:TIMP=.71]
04923>       [LOSS= 2 :CN= 75.0]
04924>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04925>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
04926>       [IaRECimp=   4.00: IaRECper=   4.00]
04927>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
04928> R0005:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04929>     ADD HYD                1.0 02:A6-MJ              .00      .000 No_date    0:00      .00  n/a      .000
04930>                    +       1.0 02:A8                 .96      .130 No_date   28:00    44.32  n/a      .000
04931>                 SUM=       1.0 01:A8T                .96      .130 No_date   28:00    44.32  n/a      .000
04932> R0005:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04933>     COMPUTE DUALHYD        1.0 01:A8T                .96      .130 No_date   28:00    44.32  n/a      .000
04934>      Major System   /      1.0 02:A8-MJ              .00      .000 No_date    0:00      .00  n/a      .000
04935>      Minor System   \      1.0 03:A8-MN              .96      .130 No_date   28:00    44.32  n/a      .000
04936>       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
04937> R0005:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04938>     ADD HYD                1.0 02:104-105       132.52     8.848 No_date   28:06    35.27  n/a      .000
04939>                    +       1.0 02:B5-MN             2.20      .248 No_date   28:00    38.90  n/a      .000
04940>                    +       1.0 02:A8-MN              .96      .130 No_date   28:00    44.32  n/a      .000
04941>                    +       1.0 02:TODD_MN3j          .00      .000 No_date    0:00      .00  n/a      .000
04942>                 SUM=       1.0 01:MH105         135.68     9.064 No_date   28:05    35.39  n/a      .000
04943> R0005:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04944>     SAVE HYD               1.0 01:MH105         135.68     9.064 No_date   28:05    35.39  n/a      .000
04945>       fname :MH105.0005
04946>       remark:Total Flows at MH105
04947> R0005:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04948>  *  DIVERT HYD      ->     1.0 01:A8-MJ              .00      .000 No_date    0:00      .00  n/a      .000
04949>            diverted <=     1.0 02:A8-MJ-JR           .00      .000 No_date    0:00      .00  n/a      .000
04950>            diverted <=     1.0 03:A8-MJ-B6           .00      .000 No_date    0:00      .00  n/a      .000
04951> R0005:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04952>     DIVERT HYD      ->     1.0 01:MH105         135.68     9.064 No_date   28:05    35.39  n/a      .000
04953>            diverted <=     1.0 02:MH105-JR       25.07     6.058 No_date   28:05    35.39  n/a      .000
04954>            diverted <=     1.0 03:MH105-B6      110.61     3.006 No_date   28:05    35.39  n/a      .000
04955> R0005:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04956>     CONTINUOUS STANDHYD  1.0 01:B7                7.19      .661 No_date   28:01    34.82 .610      .000
04957>       [XIMP=.41:TIMP=.54]
04958>       [LOSS= 2 :CN= 75.0]
04959>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04960>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
04961>       [IaRECimp=   4.00: IaRECper=   4.00]
04962>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
04963> R0005:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04964>     ADD HYD                1.0 02:B4-MJ              .00      .000 No_date    0:00      .00  n/a      .000
04965>                    +       1.0 02:B7                7.19      .661 No_date   28:01    34.82  n/a      .000
04966>                 SUM=       1.0 01:B7-B4MJ           7.19      .661 No_date   28:01    34.82  n/a      .000
04967> R0005:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04968>     COMPUTE DUALHYD        1.0 01:B7-B4MJ           7.19      .661 No_date   28:01    34.82  n/a      .000
04969>      Major System   /      1.0 02:B7R-MJ             .00      .000 No_date    0:00      .00  n/a      .000
04970>      Minor System   \      1.0 03:B7R-MN            7.19      .629 No_date   27:59    34.89  n/a      .000
04971>       {MjSysSto=.5005E+01,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
04972> R0005:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04973>     ROUTE PIPE      ->     1.0 02:B7R-MN            7.19      .629 No_date   27:59    34.89  n/a      .000
04974>      [RDT= 1.00] out<-     1.0 01:360-106A          7.19      .615 No_date   28:05    34.89  n/a      .000
04975>       [L/S/n=  167./ .100/.013]
04976>       {Vmax= 1.089:Dmax=  .665}
04977>       [Din= 1.05:Dused= 1.05}
04978> R0005:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04979>     CONTINUOUS STANDHYD  1.0 01:B6                3.29      .315 No_date   28:00    34.82 .610      .000
04980>       [XIMP=.41:TIMP=.54]
04981>       [LOSS= 2 :CN= 75.0]
04982>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04983>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
04984>       [IaRECimp=   4.00: IaRECper=   4.00]
04985>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
04986> R0005:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04987>     COMPUTE DUALHYD        1.0 01:B6                3.29      .315 No_date   28:00    34.82  n/a      .000
04988>      Major System   /      1.0 02:B6-MJ              .00      .000 No_date    0:00      .00  n/a      .000
04989>      Minor System   \      1.0 03:B6-MN             3.29      .064 No_date   27:39    34.87  n/a      .000
04990>       {MjSysSto=.2841E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
04991> R0005:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
04992>     CONTINUOUS STANDHYD  1.0 01:EX-LAND          32.50     2.843 No_date   28:02    35.73 .626      .000
04993>       [XIMP=.50:TIMP=.50]
04994>       [LOSS= 2 :CN= 74.0]
04995>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04996>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
04997>       [IaRECimp=   4.00: IaRECper=   4.00]
04998>       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
04999> R0005:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05000>     COMPUTE DUALHYD        1.0 01:EX-LAND          32.50     2.843 No_date   28:02    35.73  n/a      .000
05001>      Major System   /      1.0 02:EX-LAND-MJ         .00      .000 No_date    0:00      .00  n/a      .000
05002>      Minor System   \      1.0 03:EX-LAND-MN       32.50     2.275 No_date   27:57    35.73  n/a      .000
05003>       {MjSysSto=.2310E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
05004> R0005:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05005>     ADD HYD                1.0 02:B7R-MJ             .00      .000 No_date    0:00      .00  n/a      .000
05006>                    +       1.0 02:EX-LAND-MJ         .00      .000 No_date    0:00      .00  n/a      .000
05007>                    +       1.0 02:B5-MJ              .00      .000 No_date    0:00      .00  n/a      .000
05008>                    +       1.0 02:B6-MJ              .00      .000 No_date    0:00      .00  n/a      .000
05009>                    +       1.0 02:B6-MN             3.29      .064 No_date   27:39    34.87  n/a      .000
05010>                    +       1.0 02:A8-MJ-B6           .00      .000 No_date    0:00      .00  n/a      .000
05011>                 SUM=       1.0 01:B6-B7ExMJ         3.29      .064 No_date   27:39    34.87  n/a      .000
05012> R0005:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05013>     COMPUTE DUALHYD        1.0 01:B6-B7ExMJ         3.29      .064 No_date   27:39    34.87  n/a      .000
05014>      Major System   /      1.0 02:B6R-MJ             .00      .000 No_date    0:00      .00  n/a      .000
05015>      Minor System   \      1.0 03:B6R-MN            3.29      .064 No_date   27:39    34.87  n/a      .000
05016>       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
05017> R0005:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05018>     ROUTE PIPE      ->     1.0 02:MH105-B6      110.61     3.006 No_date   28:05    35.39  n/a      .000
05019>      [RDT= 1.00] out<-     1.0 01:105-106A      110.61     3.005 No_date   28:08    35.39  n/a      .000
05020>       [L/S/n=  208./ .100/.013]
05021>       {Vmax= 1.597:Dmax= 1.248}
05022>       [Din= 1.80:Dused= 1.80}
05023> R0005:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05024>     ADD HYD                1.0 02:360-106A          7.19      .615 No_date   28:05    34.89  n/a      .000
05025>                    +       1.0 02:105-106A      110.61     3.005 No_date   28:08    35.39  n/a      .000
05026>                    +       1.0 02:B6R-MN            3.29      .064 No_date   27:39    34.87  n/a      .000
05027>                    +       1.0 02:B6R-MJ             .00      .000 No_date    0:00      .00  n/a      .000
05028>                 SUM=       1.0 01:MH106A        121.09     3.682 No_date   28:05    35.35  n/a      .000
05029> R0005:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05030>     SAVE HYD               1.0 01:MH106A        121.09     3.682 No_date   28:05    35.35  n/a      .000
05031>       fname :MH106A.0005
05032>       remark:Total Flows at MH106A
05033> R0005:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05034>     ROUTE PIPE      ->     1.0 02:MH106A        121.09     3.682 No_date   28:05    35.35  n/a      .000
05035>  *   [RDT= 1.00] out<-     1.0 01:106A-106      121.09     3.651 No_date   28:05    35.35  n/a      .000
05036>       [L/S/n=  190./ .100/.013]
05037>       {Vmax= 1.633:Dmax= 1.484}
05038>       [Din= 1.80:Dused= 1.81}
05039> R0005:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05040>     CONTINUOUS STANDHYD  1.0 01:A9                2.44      .316 No_date   28:00    44.32 .776      .000
05041>       [XIMP=.71:TIMP=.71]
05042>       [LOSS= 2 :CN= 75.0]
05043>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05044>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
05045>       [IaRECimp=   4.00: IaRECper=   4.00]
05046>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
05047> R0005:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05048>     COMPUTE DUALHYD        1.0 01:A9                2.44      .316 No_date   28:00    44.32  n/a      .000
05049>      Major System   /      1.0 02:A9-MJ              .00      .000 No_date    0:00      .00  n/a      .000
05050>      Minor System   \      1.0 03:A9-MN             2.44      .316 No_date   28:00    44.32  n/a      .000
05051> R0005:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05052>     ADD HYD                1.0 02:106A-106      121.09     3.651 No_date   28:05    35.35  n/a      .000
05053>                    +       1.0 02:A9-MN             2.44      .316 No_date   28:00    44.32  n/a      .000
05054>                 SUM=       1.0 01:MH106         123.53     3.896 No_date   28:03    35.52  n/a      .000
05055> R0005:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05056>     SAVE HYD               1.0 01:MH106         123.53     3.896 No_date   28:03    35.52  n/a      .000
05057>       fname :MH106.0005
05058>       remark:Total Flows at MH106
05059> R0005:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05060>     ROUTE PIPE      ->     1.0 02:MH106         123.53     3.896 No_date   28:03    35.52  n/a      .000
05061>  *   [RDT= 1.00] out<-     1.0 01:106-107       123.53     3.814 No_date   28:07    35.52  n/a      .000
05062>       [L/S/n=  123./ .100/.013]
05063>       {Vmax= 1.656:Dmax= 1.516}
05064>       [Din= 1.80:Dused= 1.85}
05065> R0005:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05066>     CONTINUOUS STANDHYD  1.0 01:A10               4.14      .345 No_date   28:01    32.29 .565      .000
05067>       [XIMP=.35:TIMP=.47]
05068>       [LOSS= 2 :CN= 75.0]
05069>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05070>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05071>       [IaRECimp=   4.00: IaRECper=   4.00]
05072>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
05073> R0005:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05074>     COMPUTE DUALHYD        1.0 01:A10               4.14      .345 No_date   28:01    32.29  n/a      .000
05075>      Major System   /      1.0 02:A10-MJ             .00      .000 No_date    0:00      .00  n/a      .000
05076>      Minor System   \      1.0 03:A10-MN            4.14      .310 No_date   27:58    32.34  n/a      .000
05077>       {MjSysSto=.7677E+01,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
05078> R0005:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05079>     CONTINUOUS STANDHYD  1.0 01:A11              10.61     1.053 No_date   28:02    38.79 .679      .000
05080>       [XIMP=.53:TIMP=.62]
05081>       [LOSS= 2 :CN= 75.0]
05082>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05083>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
05084>       [IaRECimp=   4.00: IaRECper=   4.00]
05085>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
05086> R0005:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05087>     COMPUTE DUALHYD        1.0 01:A11              10.61     1.053 No_date   28:02    38.79  n/a      .000
05088>      Major System   /      1.0 02:A11-MJ             .00      .000 No_date    0:00      .00  n/a      .000
05089>      Minor System   \      1.0 03:A11-MN           10.61      .993 No_date   28:00    38.82  n/a      .000
05090>       {MjSysSto=.1280E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
05091> R0005:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05092>     ADD HYD                1.0 02:106-107       123.53     3.814 No_date   28:07    35.52  n/a      .000
05093>                    +       1.0 02:A10-MN            4.14      .310 No_date   27:58    32.34  n/a      .000
05094>                    +       1.0 02:A11-MN           10.61      .993 No_date   28:00    38.82  n/a      .000
05095>                 SUM=       1.0 01:MH107         138.28     5.112 No_date   28:06    35.68  n/a      .000
05096> R0005:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05097>     SAVE HYD               1.0 01:MH107         138.28     5.112 No_date   28:06    35.68  n/a      .000
05098>       fname :MH107.0005
05099>       remark:Total Flows at MH107
05100> R0005:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05101>     ROUTE PIPE      ->     1.0 02:MH107         138.28     5.112 No_date   28:06    35.68  n/a      .000
05102>  *   [RDT= 1.00] out<-     1.0 01:107-119       138.28     5.061 No_date   28:07    35.68  n/a      .000
05103>       [L/S/n=  114./ .120/.013]
05104>       {Vmax= 1.898:Dmax= 1.622}
05105>       [Din= 1.80:Dused= 1.98}
05106> R0005:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05107>     ROUTE PIPE      ->     1.0 02:107-119       138.28     5.061 No_date   28:07    35.68  n/a      .000
05108>  *   [RDT= 1.00] out<-     1.0 01:119-108       138.28     5.009 No_date   28:07    35.68  n/a      .000
05109>       [L/S/n=   66./ .120/.013]
05110>       {Vmax= 1.893:Dmax= 1.616}
05111>       [Din= 1.80:Dused= 1.97}
05112> R0005:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05113>     CONTINUOUS STANDHYD  1.0 01:A12              12.29     1.145 No_date   28:00    34.82 .610      .000
05114>       [XIMP=.41:TIMP=.54]
05115>       [LOSS= 2 :CN= 75.0]
05116>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05117>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05118>       [IaRECimp=   4.00: IaRECper=   4.00]
05119>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
05120> R0005:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05121>     COMPUTE DUALHYD        1.0 01:A12              12.29     1.145 No_date   28:00    34.82  n/a      .000
05122>      Major System   /      1.0 02:A12-MJ             .00      .000 No_date    0:00      .00  n/a      .000
05123>      Minor System   \      1.0 03:A12-MN           12.29     1.029 No_date   27:57    34.93  n/a      .000
05124>       {MjSysSto=.2567E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
05125> R0005:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05126>     CONTINUOUS STANDHYD  1.0 01:A13               2.59      .312 No_date   28:01    44.32 .776      .000
05127>       [XIMP=.71:TIMP=.71]
05128>       [LOSS= 2 :CN= 75.0]
05129>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05130>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
05131>       [IaRECimp=   4.00: IaRECper=   4.00]
05132>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
05133> R0005:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05134>     COMPUTE DUALHYD        1.0 01:A13               2.59      .312 No_date   28:01    44.32  n/a      .000
05135>      Major System   /      1.0 02:A13-MJ             .00      .000 No_date    0:00      .00  n/a      .000
05136>      Minor System   \      1.0 03:A13-MN            2.59      .312 No_date   28:01    44.32  n/a      .000
05137> R0005:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05138>     CONTINUOUS STANDHYD  1.0 01:Pond-Block        2.94      .261 No_date   28:00    32.90 .576      .000
05139>       [XIMP=.41:TIMP=.41]
05140>       [LOSS= 2 :CN= 75.0]
05141>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05142>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05143>       [IaRECimp=   4.00: IaRECper=   4.00]
05144>       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
05145> R0005:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05146>     ADD HYD                1.0 02:119-108       138.28     5.009 No_date   28:07    35.68  n/a      .000
05147>                    +       1.0 02:A13-MN            2.59      .312 No_date   28:01    44.32  n/a      .000
05148>                    +       1.0 02:A12-MN           12.29     1.029 No_date   27:57    34.93  n/a      .000
05149>                 SUM=       1.0 01:MH108         153.16     6.257 No_date   28:01    35.77  n/a      .000
05150> R0005:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05151>     SAVE HYD               1.0 01:MH108         153.16     6.257 No_date   28:01    35.77  n/a      .000
05152>       fname :MH108.0005
05153>       remark:Total Flows at MH108
05154> R0005:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05155>     ROUTE PIPE      ->     1.0 02:MH108         153.16     6.257 No_date   28:01    35.77  n/a      .000
05156>  *   [RDT= 1.00] out<-     1.0 01:108-116       153.16     6.250 No_date   28:02    35.77  n/a      .000
05157>       [L/S/n=   77./ .130/.013]
05158>       {Vmax= 2.057:Dmax= 1.724}
05159>       [Din= 1.80:Dused= 2.10}
05160> R0005:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05161>     ROUTE PIPE      ->     1.0 02:108-116       153.16     6.250 No_date   28:02    35.77  n/a      .000
05162>  *   [RDT= 1.00] out<-     1.0 01:116-corrig    153.16     6.248 No_date   28:07    35.77  n/a      .000
05163>       [L/S/n=   80./ .130/.013]
05164>       {Vmax= 2.057:Dmax= 1.723}
05165>       [Din= 1.80:Dused= 2.10}
05166> R0005:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05167>     ADD HYD                1.0 02:116-corrig    153.16     6.248 No_date   28:07    35.77  n/a      .000
05168>                    +       1.0 02:Pond-Block       2.94      .261 No_date   28:00    32.90  n/a      .000
05169>                 SUM=       1.0 01:Corrigan      156.10     6.442 No_date   28:02    35.71  n/a      .000
05170> R0005:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05171>     SAVE HYD               1.0 01:Corrigan      156.10     6.442 No_date   28:02    35.71  n/a      .000
05172>       fname :Corrigan.0005
05173>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
05174> R0005:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05175>     ROUTE RESERVOIR ->     1.0 02:Corrigan      156.10     6.442 No_date   28:02    35.71  n/a      .000
05176>                 out <=     1.0 01:Co-P          156.10     5.462 No_date   28:10    35.71  n/a      .000
05177>            overflow <=     1.0 03:Co-P-OVF         .00      .000 No_date    0:00      .00  n/a      .000
05178>      {MxStoUsed=.9809E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05179> R0005:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05180>     ADD HYD                1.0 02:Co-P-OVF         .00      .000 No_date    0:00      .00  n/a      .000
05181>                    +       1.0 02:Co-P          156.10     5.462 No_date   28:10    35.71  n/a      .000
05182>                    +       1.0 02:N_TO        54837.69    69.906 No_date   37:02    18.77  n/a      .000
05183>                    +       1.0 02:MH105-JR       25.07     6.058 No_date   28:05    35.39  n/a      .000
05184>                    +       1.0 02:A8-MJ-JR          .00      .000 No_date    0:00      .00  n/a      .000
05185>                    +       1.0 02:A9-MJ             .00      .000 No_date    0:00      .00  n/a      .000
05186>                    +       1.0 02:A10-MJ            .00      .000 No_date    0:00      .00  n/a      .000
05187>                    +       1.0 02:A11-MJ            .00      .000 No_date    0:00      .00  n/a      .000
05188>                    +       1.0 02:A12-MJ            .00      .000 No_date    0:00      .00  n/a      .000
05189>                    +       1.0 02:A13-MJ            .00      .000 No_date    0:00      .00  n/a      .000
05190>                 SUM=       1.0 01:corrig      55018.86    70.243 No_date   37:00    18.83  n/a      .000
05191> R0005:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05192>     SAVE HYD               1.0 01:corrig      55018.86    70.243 No_date   37:00    18.83  n/a      .000
05193>       fname :corrig.0005
05194>       remark:Total Flows at Corrigan Pond
05195> #****************************************************************************
05196> #    Corrigan Pond 1
05197> #    - Rating curve obtained from Barrhaven South MSS modeling
05198> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
05199> #****************************************************************************
05200> #
05201> # Hydrograph from Corrigan Drain routed to Jockvale Road
05202> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
05203> #
05204> R0005:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05205>     ROUTE CHANNEL   ->     1.0 02:corrig      55018.86    70.243 No_date   37:00    18.83  n/a      .000
05206>      [RDT= 1.00] out<-     1.0 01:N_M         55018.86    70.233 No_date   37:04    18.83  n/a      .000
05207>       [L/S/n=  580./ .445/.045]
05208>       {Vmax= 1.643:Dmax= 1.473}
05209> #****************************************************************************
05210> #    Catchment MILLS
05211> #    - To SWM Facility north of the Jock
05212> #    - Primarily residental development
05213> #****************************************************************************
05214> R0005:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05215>     CONTINUOUS STANDHYD  1.0 01:MILLS           175.99     9.992 No_date   28:07    30.98 .542      .000
05216>       [XIMP=.38:TIMP=.38]
05217>       [LOSS= 2 :CN= 74.0]
05218>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05219>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
05220>       [IaRECimp=   4.00: IaRECper=   4.00]
05221>       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
05222> #****************************************************************************
05223> #    Chapman Mills SWM Pond
05224> #    - Rating curve obtained from CCL hydraulic modeling
05225> #****************************************************************************
05226> R0005:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05227>     ROUTE RESERVOIR ->     1.0 02:MILLS         175.99     9.992 No_date   28:07    30.97  n/a      .000
05228>                 out <=     1.0 01:MILL_P        175.99     3.368 No_date   28:44    30.97  n/a      .000
05229>            overflow <=     1.0 03:MIL-OV           .00      .000 No_date    0:00      .00  n/a      .000
05230>      {MxStoUsed=.1941E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05231> R0005:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
05232>     ADD HYD                1.0 02:N_M         55018.86    70.233 No_date   37:04    18.83  n/a      .000
05233>                    +       1.0 02:MIL-OV           .00      .000 No_date    0:00      .00  n/a      .000
05234>                    +       1.0 02:MILL_P        175.99     3.368 No_date   28:44    30.97  n/a      .000
05235>                 SUM=       1.0 01:SN_M        55194.85    70.602 No_date   37:03    18.87  n/a      .000
05236> R0005:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
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```
     SAVE HYD              1.0 01:SN_MI      55194.85   70.602 No_date   37:03   18.87  n/a      .000
       fname :SN_MI.0005
       remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0005:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_MI      55194.85   70.602 No_date   37:03   18.87  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N_DE       55194.85   70.452 No_date   37:20   18.87  n/a      .000
       [L/S/n= 1962./ .223/.045]
       {Vmax= 1.303:Dmax= 1.891}
#*****************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#*****************************************************************************
R0005:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:DESIRE        23.78    1.359 No_date   28:03   27.22 .477      .000
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#*****************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#*****************************************************************************
R0005:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JOCKVA       225.13   14.675 No_date   28:09   35.73 .626      .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0005:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:EX-LAND-MN    32.50    2.275 No_date   27:57   35.73  n/a      .000
                     +     1.0 02:JOCKVA       225.13   14.675 No_date   28:09   35.73  n/a      .000
                     +     1.0 02:B2-MJ           .00     .000 No_date    0:00     .00  n/a      .000
                     +     1.0 02:B3-MJ           .00     .000 No_date    0:00     .00  n/a      .000
                  SUM=     1.0 01:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73  n/a      .000
R0005:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73  n/a      .000
       fname :JOCKVA-TO.0005
       remark:Total Flows at KB first pond
#*****************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#*****************************************************************************
R0005:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73  n/a      .000
                 out <=    1.0 01:JOCK_P       257.63    4.781 No_date   28:48   35.73  n/a      .000
            overflow <=    1.0 03:JO-OVF          .00     .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.4115E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_DE       55194.85   70.452 No_date   37:20   18.87  n/a      .000
                     +     1.0 02:DESIRE        23.78    1.359 No_date   28:03   27.22  n/a      .000
                     +     1.0 02:JO-OVF          .00     .000 No_date    0:00     .00  n/a      .000
                     +     1.0 02:JOCK_P       257.63    4.781 No_date   28:48   35.73  n/a      .000
                  SUM=     1.0 01:SN_DE      55476.26   71.017 No_date   37:17   18.95  n/a      .000
R0005:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_DE      55476.26   71.017 No_date   37:17   18.95  n/a      .000
       fname :SN_DE.0005
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0005:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_DE      55476.26   71.017 No_date   37:17   18.95  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N1         55476.26   71.029 No_date   37:08   18.95  n/a      .000
       [L/S/n=  563./ .967/.045]
       {Vmax= 1.676:Dmax=  .955}
#*****************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#*****************************************************************************
R0005:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-2          102.94    2.262 No_date   28:20   19.00 .333      .000
       [CN= 72.0: N= 3.00: Tp=  .40]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0005:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N1         55476.26   71.029 No_date   37:08   18.95  n/a      .000
                     +     1.0 02:S-2          102.94    2.262 No_date   28:20   19.00  n/a      .000
                  SUM=     1.0 01:SN_N1      55579.20   71.168 No_date   37:08   18.95  n/a      .000
R0005:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_N1      55579.20   71.168 No_date   37:08   18.95  n/a      .000
       fname :SN_N1.0005
       remark:Total Flows at Rideau River
#############################################################################
  ** END OF RUN :     9

**************************************************************************************************



 RUN#:COMMAND#
R0010:C00001------------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2   (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0010 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date         : 04-03-2021
#  Modeller     : [MM]
#  Company      : JFSAinc.
#  License #    :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# ----------------------------------------------------------------------------
R0010:C00002------------------------------------------------------------------------------------------
      READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:10 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  64.69]
R0010:C00003------------------------------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  64.69]
R0010:C00004------------------------------------------------------------------------------------------
      DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   4.67 mm] [N= 3.00]
       Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0010:C00005------------------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
       {APImax= 97.81: APIavg= 62.29: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00   11.879 No_date   36:59   20.23 .313      .000
       [CN= 64.0: N= 3.00: Tp= 7.13]
       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_13        971.00    4.365 No_date   32:35   18.83 .291      .000
       [CN= 61.0: N= 3.00: Tp= 3.76]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    5.829 No_date   39:59   16.22 .251      .000
       [CN= 55.0: N= 3.00: Tp=11.33]
       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
       [InterEventTime=  12.00]
R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   10.839 No_date   32:42   24.81 .383      .000
       [CN= 72.0: N= 3.00: Tp= 3.91]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_11        500.00    5.639 No_date   29:22   21.19 .328      .000
       [CN= 66.0: N= 3.00: Tp= 1.24]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00    7.897 No_date   34:28   21.19 .328      .000
       [CN= 66.0: N= 3.00: Tp= 5.29]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   21.255 No_date   37:58   24.81 .383      .000
       [CN= 72.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   20.398 No_date   39:59   21.19 .328      .000
       [CN= 66.0: N= 3.00: Tp=11.66]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_9        1132.00    8.921 No_date   30:54   23.73 .367      .000
       [CN= 70.0: N= 3.00: Tp= 2.51]
       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   10.128 No_date   39:59   19.29 .298      .000
       [CN= 62.0: N= 3.00: Tp=11.32]
       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_8         131.00    1.689 No_date   28:57   19.76 .305      .000
       [CN= 63.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   11.811 No_date   38:37   21.19 .328      .000
       [CN= 66.0: N= 3.00: Tp= 8.42]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_7        3197.00    8.899 No_date   36:26   17.07 .264      .000
       [CN= 57.0: N= 3.00: Tp= 6.65]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_6         165.00     .818 No_date   33:04   21.69 .335      .000
       [CN= 67.0: N= 3.00: Tp= 4.18]
       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    6.069 No_date   35:17   24.81 .383      .000
       [CN= 72.0: N= 3.00: Tp= 5.95]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5         224.00    5.246 No_date   28:45   28.24 .437      .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   28.945 No_date   33:21   25.91 .401      .000
       [CN= 74.0: N= 3.00: Tp= 4.45]
       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
       [InterEventTime=  12.00]
R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00     .614 No_date   28:36   31.37 .485      .000
       [CN= 81.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00    5.817 No_date   37:54   27.06 .418      .000
       [CN= 75.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
       [InterEventTime=  12.00]
R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_4         585.00    8.458 No_date   29:57   31.37 .485      .000
       [CN= 81.0: N= 3.00: Tp= 1.75]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   11.195 No_date   30:48   30.72 .475      .000
       [CN= 80.0: N= 3.00: Tp= 2.46]
       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
       [InterEventTime=  12.00]
R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_2         177.00    4.146 No_date   28:45   28.24 .437      .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00   10.275 No_date   31:46   31.37 .485      .000
       [CN= 81.0: N= 3.00: Tp= 3.25]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   22.669 No_date   31:32   27.64 .427      .000
       [CN= 76.0: N= 3.00: Tp= 3.03]
       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR_HW       3680.00   11.879 No_date   36:59   20.23  n/a      .000
                     +     1.0 02:SW_13        971.00    4.365 No_date   32:35   18.83  n/a      .000
                  SUM=     1.0 01:S_N13       4651.00   15.130 No_date   35:28   19.94  n/a      .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00   15.130 No_date   35:28   19.94  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N13A        4651.00   12.097 No_date   39:41   19.94  n/a      .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .508:Dmax= 3.307}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N13A        4651.00   12.097 No_date   39:41   19.94  n/a      .000
                     +     1.0 02:JR_GWM      3074.00    5.829 No_date   39:59   16.22  n/a      .000
                  SUM=     1.0 01:SN13A       7725.00   17.918 No_date   39:59   18.46  n/a      .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   17.918 No_date   39:59   18.46  n/a      .000
                 out <=    1.0 01:RES_GM      7725.00    3.524 No_date   58:32   18.46  n/a      .000
      {MxStoUsed=.8503E+02  m3}
#
R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:RES_GM      7725.00    3.524 No_date   58:32   18.46  n/a      .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    3.524 No_date   58:32   18.46  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N12         7725.00    3.519 No_date   61:53   18.46  n/a      .000
       [L/S/n= 5926./ .076/.040]
```

```
     {Vmax=  .546:Dmax= 1.499}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N12         7725.00    3.519 No_date   61:53   18.46  n/a     .000
                    +        1.0 02:JR_ASH      1781.00   10.839 No_date   32:42   24.81  n/a     .000
                 SUM=        1.0 01:S_N12       9506.00   12.834 No_date   32:45   19.65  n/a     .000
R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   SAVE HYD                  1.0 01:S_N12       9506.00   12.834 No_date   32:45   19.65  n/a     .000
     fname :H_SN12
     remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N12       9506.00   12.834 No_date   32:45   19.65  n/a     .000
    [RDT= 1.00] out<-        1.0 01:Dum11       9506.00   12.710 No_date   33:02   19.65  n/a     .000
     [L/S/n=  972./ .054/.040]
     {Vmax=  .680:Dmax= 2.598}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:Dum11       9506.00   12.710 No_date   33:02   19.65  n/a     .000
                    +        1.0 02:SW_11        500.00    5.639 No_date   29:22   21.19  n/a     .000
                    +        1.0 02:NN_CK       1917.00    7.897 No_date   34:28   21.19  n/a     .000
                 SUM=        1.0 01:S_N11      11923.00   21.813 No_date   33:05   19.96  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N11      11923.00   21.813 No_date   33:05   19.96  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N10        11923.00   14.761 No_date   39:58   19.96  n/a     .000
     [L/S/n=14028./ .157/.040]
     {Vmax=  .452:Dmax= 1.212}
#
# Addition of Subwatershed 10 to Node 10
#
R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N10        11923.00   14.761 No_date   39:58   19.96  n/a     .000
                    +        1.0 02:SW_10       5666.00   21.255 No_date   37:58   24.81  n/a     .000
                 SUM=        1.0 01:S_N10      17589.00   35.808 No_date   38:35   21.52  n/a     .000
R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   SAVE HYD                  1.0 01:S_N10      17589.00   35.808 No_date   38:35   21.52  n/a     .000
     fname :H_SN10
     remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:S_N10      17589.00   35.808 No_date   38:35   21.52  n/a     .000
                    +        1.0 02:KG_CK       8376.00   20.398 No_date   39:59   21.19  n/a     .000
                 SUM=        1.0 01:S_N10A     25965.00   55.807 No_date   39:58   21.41  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N10A     25965.00   55.807 No_date   39:58   21.41  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N9         25965.00   54.076 No_date   39:59   21.41  n/a     .000
     [L/S/n= 3982./ .075/.040]
     {Vmax=  .682:Dmax= 1.695}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N9         25965.00   54.076 No_date   39:59   21.41  n/a     .000
                    +        1.0 02:SW_9        1132.00    8.921 No_date   30:54   23.73  n/a     .000
                    +        1.0 02:NC_CK       4464.00   10.128 No_date   39:59   19.29  n/a     .000
                 SUM=        1.0 01:S_N9       31561.00   66.284 No_date   39:59   21.20  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N9       31561.00   66.284 No_date   39:59   21.20  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N8         31561.00   61.483 No_date   39:57   21.20  n/a     .000
     [L/S/n= 2269./ .088/.045]
     {Vmax=  .363:Dmax= 1.619}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N8         31561.00   61.483 No_date   39:57   21.20  n/a     .000
                    +        1.0 02:SW_8         131.00    1.689 No_date   28:57   19.76  n/a     .000
                    +        1.0 02:HB_DR       3854.00   11.811 No_date   38:37   21.19  n/a     .000
                 SUM=        1.0 01:S_N8       35546.00   73.344 No_date   39:57   21.19  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N8       35546.00   73.344 No_date   39:57   21.19  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N7         35546.00   61.416 No_date   45:01   21.19  n/a     .000
     [L/S/n= 3750./ .053/.070]
     {Vmax=  .218:Dmax= 1.987}
#
# Addition of Subwatershed 7 to Node 7
#
R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N7         35546.00   61.416 No_date   45:01   21.19  n/a     .000
                    +        1.0 02:SW_7        3197.00    8.899 No_date   36:26   17.07  n/a     .000
                 SUM=        1.0 01:S_N7       38743.00   65.819 No_date   44:06   20.85  n/a     .000
R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   SAVE HYD                  1.0 01:S_N7       38743.00   65.819 No_date   44:06   20.85  n/a     .000
     fname :H_SN7
     remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->        1.0 02:S_N7       38743.00   65.819 No_date   44:06   20.85  n/a     .000
                out  <=      1.0 01:RES_RF     38743.00   31.796 No_date   60:32   20.85  n/a     .000
    {MxStoUsed=.2597E+03  m3}
R0010:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   SAVE HYD                  1.0 01:RES_RF     38743.00   31.796 No_date   60:32   20.85  n/a     .000
     fname :H_ResRF
     remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0010:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:RES_RF     38743.00   31.796 No_date   60:32   20.85  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N6         38743.00   31.737 No_date   62:00   20.85  n/a     .000
     [L/S/n= 3056./ .082/.025]
     {Vmax=  .477:Dmax=  .960}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0010:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N6         38743.00   31.737 No_date   62:00   20.85  n/a     .000
                    +        1.0 02:SW_6         165.00     .818 No_date   33:04   21.69  n/a     .000
                    +        1.0 02:VG_DR       1332.00    6.069 No_date   35:17   24.81  n/a     .000
                 SUM=        1.0 01:S_N6       40240.01   31.737 No_date   62:00   20.99  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0010:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N6       40240.01   31.737 No_date   62:00   20.99  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N5         40240.01   31.713 No_date   62:48   20.99  n/a     .000
     [L/S/n= 1852./ .054/.035]
     {Vmax=  .412:Dmax= 1.069}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0010:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N5         40240.01   31.713 No_date   62:48   20.99  n/a     .000
                    +        1.0 02:SW_5         224.00    5.246 No_date   28:45   28.24  n/a     .000
                    +        1.0 02:FL_CK       4945.00   28.945 No_date   33:21   25.91  n/a     .000
                 SUM=        1.0 01:S_N5       45409.01   51.448 No_date   34:54   21.56  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0010:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N5       45409.01   51.448 No_date   34:54   21.56  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N5A        45409.01   51.312 No_date   35:12   21.56  n/a     .000
     [L/S/n=  556./ .090/.040]
     {Vmax=  .485:Dmax= 1.131}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0010:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N5A        45409.01   51.312 No_date   35:12   21.56  n/a     .000
                    +        1.0 02:SW_5A2        20.00     .614 No_date   28:36   31.37  n/a     .000
                    +        1.0 02:SW_5A1      1412.00    5.817 No_date   37:54   27.06  n/a     .000
                 SUM=        1.0 01:S_N5A      46841.01   56.788 No_date   35:22   21.73  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0010:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N5A      46841.01   56.788 No_date   35:22   21.73  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N4         46841.01   54.543 No_date   36:56   21.73  n/a     .000
     [L/S/n= 4630./ .043/.035]
     {Vmax=  .793:Dmax= 3.295}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0010:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N4         46841.01   54.543 No_date   36:56   21.73  n/a     .000
                    +        1.0 02:SW_4         585.00    8.458 No_date   29:57   31.37  n/a     .000
                    +        1.0 02:LM_CK       1021.00   11.195 No_date   30:48   30.72  n/a     .000
                 SUM=        1.0 01:S_N4       48447.00   59.934 No_date   36:12   22.03  n/a     .000
R0010:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   SAVE HYD                  1.0 01:S_N4       48447.00   59.934 No_date   36:12   22.03  n/a     .000
     fname :S_N4.0010
     remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0010:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N4       48447.00   59.934 No_date   36:12   22.03  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N2         48447.00   59.699 No_date   36:35   22.03  n/a     .000
     [L/S/n= 1667./ .060/.040]
     {Vmax=  .824:Dmax= 3.325}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0010:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N2         48447.00   59.699 No_date   36:35   22.03  n/a     .000
                    +        1.0 02:SW_2         177.00    4.146 No_date   28:45   28.24  n/a     .000
                    +        1.0 02:SM_DR       1122.00   10.275 No_date   31:46   31.37  n/a     .000
                    +        1.0 02:MO_DR       2737.00   22.669 No_date   31:32   27.64  n/a     .000
                 SUM=        1.0 01:S_N2       52483.00   83.235 No_date   33:15   22.55  n/a     .000
R0010:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   SAVE HYD                  1.0 01:S_N2       52483.00   83.235 No_date   33:15   22.55  n/a     .000
     fname :H_SN2
     remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#*****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0010:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:S_N2       52483.00   83.235 No_date   33:15   22.55  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N_416      52483.00   81.216 No_date   34:18   22.55  n/a     .000
     [L/S/n= 2327./ .050/.055]
     {Vmax=  .705:Dmax= 2.943}
#*****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#*****************************************************************************
R0010:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD         1.0 01:SW_1a        536.42    3.888 No_date   31:17   23.57 .364     .000
     [CN= 72.0: N= 3.00: Tp= 2.79]
     [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
     [InterEventTime=  12.00]
R0010:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD       1.0 01:S-1-Okeefe    44.93    5.420 No_date   28:03   48.63 .752     .000
     [XIMP=.65:TIMP=.65]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00: IaRECper=    4.00]
     [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:N_416      52483.00   81.216 No_date   34:18   22.55  n/a     .000
                    +        1.0 02:SW_1a        536.42    3.888 No_date   31:17   23.57  n/a     .000
                    +        1.0 02:S-1-Okeefe    44.93    5.420 No_date   28:03   48.63  n/a     .000
                 SUM=        1.0 01:SN_416     53064.36   84.144 No_date   33:41   22.58  n/a     .000
R0010:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   SAVE HYD                  1.0 01:SN_416     53064.36   84.144 No_date   33:41   22.58  n/a     .000
     fname :SN_416.0010
     remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0010:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:SN_416     53064.36   84.144 No_date   33:41   22.58  n/a     .000
    [RDT= 1.00] out<-        1.0 01:N_OK       53064.36   84.064 No_date   33:41   22.58  n/a     .000
     [L/S/n=  497./ .302/.055]
     {Vmax= 1.450:Dmax= 2.495}
#*****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#*****************************************************************************
R0010:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD         1.0 01:O-1           63.72     .684 No_date   28:58   17.24 .266     .000
     [CN= 61.0: N= 3.00: Tp=  .90]
     [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
     [InterEventTime=  12.00]
R0010:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:O-1           63.72     .684 No_date   28:58   17.24  n/a     .000
    [RDT= 1.00] out<-        1.0 01:O-1R          63.72     .637 No_date   29:17   17.24  n/a     .000
     [L/S/n=  960./ .630/.043]
     {Vmax=  .755:Dmax=  .334}
R0010:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD         1.0 01:O-2           28.61     .242 No_date   29:13   16.01 .248     .000
     [CN= 57.0: N= 3.00: Tp= 1.10]
     [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
     [InterEventTime=  12.00]
R0010:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD         1.0 01:O-4           46.94     .303 No_date   29:00   12.15 .188     .000
     [CN= 49.0: N= 3.00: Tp=  .90]
     [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
     [InterEventTime=  12.00]
R0010:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:O-1R          63.72     .637 No_date   29:17   17.24  n/a     .000
                    +        1.0 02:O-2           28.61     .242 No_date   29:13   16.01  n/a     .000
                    +        1.0 02:O-4           46.94     .303 No_date   29:00   12.15  n/a     .000
                 SUM=        1.0 01:OKF-N        139.27    1.172 No_date   29:12   15.27  n/a     .000
R0010:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:OKF-N        139.27    1.172 No_date   29:12   15.27  n/a     .000
    [RDT= 1.00] out<-        1.0 01:OKF-NR       139.27    1.170 No_date   29:16   15.27  n/a     .000
     [L/S/n=  210./ .810/.043]
     {Vmax=  .916:Dmax=  .609}
R0010:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD         1.0 01:O-6           16.46     .101 No_date   28:45   10.60 .164     .000
     [CN= 43.0: N= 3.00: Tp=  .70]
     [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
     [InterEventTime=  12.00]
R0010:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD       1.0 01:O-3           39.67     .767 No_date   28:24   19.36 .299     .000
     [XIMP=.15:TIMP=.30]
     [LOSS= 2 :CN= 50.0]
     [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00: IaRECper=    4.00]
     [SMIN= 99.77: SMAX=665.12: SK= .010]
R0010:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD       1.0 01:O-5           60.63    1.881 No_date   28:10   22.00 .340     .000
     [XIMP=.13:TIMP=.26]
     [LOSS= 2 :CN= 61.0]
     [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00: IaRECper=    4.00]
     [SMIN= 64.50: SMAX=430.01: SK= .010]
R0010:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:OKF-NR       139.27    1.170 No_date   29:16   15.27  n/a     .000
                    +        1.0 02:O-3           39.67     .767 No_date   28:24   19.36  n/a     .000
                    +        1.0 02:O-5           60.63    1.881 No_date   28:10   22.00  n/a     .000
                    +        1.0 02:O-6           16.46     .101 No_date   28:45   10.60  n/a     .000
                 SUM=        1.0 01:PT1          256.03    3.008 No_date   28:23   17.20  n/a     .000
R0010:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD         1.0 01:O-7            5.28     .056 No_date   28:37   14.05 .217     .000
     [CN= 54.0: N= 3.00: Tp=  .60]
     [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
     [InterEventTime=  12.00]
R0010:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ADD HYD                   1.0 02:PT1          256.03    3.008 No_date   28:23   17.20  n/a     .000
                    +        1.0 02:O-7            5.28     .056 No_date   28:37   14.05  n/a     .000
                 SUM=        1.0 01:FF           261.31    3.058 No_date   28:23   17.14  n/a     .000
R0010:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->        1.0 02:FF           261.31    3.058 No_date   28:23   17.14  n/a     .000
    [RDT= 1.00] out<-        1.0 01:DRAIN1       261.31    2.972 No_date   28:31   17.14  n/a     .000
     [L/S/n=  302./1.000/.043]
     {Vmax=  .783:Dmax=  .667}
R0010:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD         1.0 01:D1             1.17     .058 No_date   28:12   29.30 .453     .000
     [CN= 84.0: N= 3.00: Tp=  .28]
     [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
     [InterEventTime=  12.00]
R0010:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD       1.0 01:A1             2.50     .391 No_date   28:01   50.29 .777     .000
     [XIMP=.68:TIMP=.85]
     [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
     [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00: IaRECper=    4.00]
R0010:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->        1.0 02:A1             2.50     .391 No_date   28:01   50.29  n/a     .000
                out  <=      1.0 01:A1-STR         2.50     .098 No_date   28:24   50.29  n/a     .000
           overflow  <=      1.0 03:A1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
    {MxStoUsed=.5829E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD       1.0 01:ST-2            .59     .075 No_date   28:00   38.69 .598     .000
     [XIMP=.46:TIMP=.57]
     [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
     [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00: IaRECper=    4.00]
R0010:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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      ROUTE RESERVOIR ->    1.0 02:ST-2           .59     .075 No_date   28:00   38.69  n/a      .000
                 out <=     1.0 01:ST2STR         .59     .052 No_date   28:05   38.69  n/a      .000
            overflow <=     1.0 03:ST2OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.1835E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:O-8          60.55     .857 No_date   29:04   22.40 .346      .000
        [CN= 69.0: N= 3.00: Tp= 1.00]
        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
        [InterEventTime= 12.00]
R0010:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE PIPE      ->    1.0 02:O-8          60.55     .857 No_date   29:04   22.40  n/a      .000
       [RDT= 1.00] out<-    1.0 01:O8PIPE       60.55     .852 No_date   29:08   22.40  n/a      .000
        [L/S/n=  335./ .100/.013]
        {Vmax= 1.080:Dmax=  .441}
        {HGTH= 1.20:WDTH= 1.80}
R0010:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:DRAIN1      261.31    2.972 No_date   28:31   17.14  n/a      .000
                      +     1.0 02:D1            1.17     .058 No_date   28:12   29.30  n/a      .000
                      +     1.0 02:A1-STR        2.50     .098 No_date   28:24   50.29  n/a      .000
                      +     1.0 02:A1-OVF         .00     .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST2STR         .59     .052 No_date   28:05   38.69  n/a      .000
                      +     1.0 02:ST2OVF         .00     .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:O8PIPE       60.55     .852 No_date   29:08   22.40  n/a      .000
                   SUM=     1.0 01:ST2-IN      326.12    3.771 No_date   28:40   18.45  n/a      .000
R0010:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:A7            3.51     .538 No_date   28:01   50.29 .777      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:A7            3.51     .538 No_date   28:01   50.29  n/a      .000
                 out <=     1.0 01:A7-STR        3.51     .139 No_date   28:25   50.29  n/a      .000
            overflow <=     1.0 03:A7-OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.8167E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:ST-3           .71     .089 No_date   28:00   38.69 .598      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:ST-3           .71     .089 No_date   28:00   38.69  n/a      .000
                 out <=     1.0 01:ST3STR         .71     .063 No_date   28:05   38.69  n/a      .000
            overflow <=     1.0 03:ST3OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.1988E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:ST2-IN      326.12    3.771 No_date   28:40   18.45  n/a      .000
                      +     1.0 02:A7-STR        3.51     .139 No_date   28:25   50.29  n/a      .000
                      +     1.0 02:A7-OVF         .00     .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST3STR         .71     .063 No_date   28:05   38.69  n/a      .000
                      +     1.0 02:ST3OVF         .00     .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT2ST3      330.34    3.914 No_date   28:39   18.83  n/a      .000
R0010:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:PT2ST3      330.34    3.914 No_date   28:39   18.83  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN2      330.34    3.640 No_date   29:01   18.83  n/a      .000
        [L/S/n=  592./ .230/.043]
        {Vmax=  .582:Dmax= 1.002}
R0010:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:D2            2.28     .046 No_date   29:04   29.30 .453      .000
        [CN= 84.0: N= 3.00: Tp=  .99]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime= 12.00]
R0010:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:A17          12.04    1.618 No_date   28:04   50.29 .777      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:A17          12.04    1.618 No_date   28:04   50.29  n/a      .000
                 out <=     1.0 01:A17STR       12.04     .460 No_date   28:31   50.29  n/a      .000
            overflow <=     1.0 03:A17OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.2771E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:ST-4           .35     .046 No_date   28:00   38.69 .598      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:ST-4           .35     .046 No_date   28:00   38.69  n/a      .000
                 out <=     1.0 01:ST4STR         .35     .031 No_date   28:04   38.69  n/a      .000
            overflow <=     1.0 03:ST4OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.1424E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:A18           5.30     .780 No_date   28:02   50.29 .777      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:A18           5.30     .780 No_date   28:02   50.29  n/a      .000
                 out <=     1.0 01:A18STR        5.30     .206 No_date   28:27   50.29  n/a      .000
            overflow <=     1.0 03:A18OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.1232E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:DRAIN2      330.34    3.640 No_date   29:01   18.83  n/a      .000
                      +     1.0 02:D2            2.28     .046 No_date   29:04   29.30  n/a      .000
                      +     1.0 02:A17STR       12.04     .460 No_date   28:31   50.29  n/a      .000
                      +     1.0 02:A17OVF         .00     .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST4STR         .35     .031 No_date   28:04   38.69  n/a      .000
                      +     1.0 02:ST4OVF         .00     .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:A18STR        5.30     .206 No_date   28:27   50.29  n/a      .000
                      +     1.0 02:A18OVF         .00     .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT3ST4      350.31    4.213 No_date   28:57   20.48  n/a      .000
R0010:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:PT3ST4      350.31    4.213 No_date   28:57   20.48  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN3      350.31    4.037 No_date   29:17   20.48  n/a      .000
        [L/S/n=  525./ .230/.043]
        {Vmax=  .606:Dmax= 1.049}
R0010:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:D3            2.51     .072 No_date   28:44   32.13 .497      .000
        [CN= 86.0: N= 3.00: Tp=  .73]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime= 12.00]
R0010:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:C1            3.41     .523 No_date   28:01   50.29 .777      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:C1            3.41     .523 No_date   28:01   50.29  n/a      .000
                 out <=     1.0 01:C1-STR        3.41     .133 No_date   28:25   50.29  n/a      .000
            overflow <=     1.0 03:C1-OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.7930E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:ST-5           .45     .058 No_date   28:00   38.69 .598      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:ST-5           .45     .058 No_date   28:00   38.69  n/a      .000
                 out <=     1.0 01:ST5STR         .45     .040 No_date   28:04   38.69  n/a      .000
            overflow <=     1.0 03:ST5OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.1552E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:DRAIN3      350.31    4.037 No_date   29:17   20.48  n/a      .000
                      +     1.0 02:D3            2.51     .072 No_date   28:44   32.13  n/a      .000
                      +     1.0 02:C1-STR        3.41     .133 No_date   28:25   50.29  n/a      .000
                      +     1.0 02:C1-OVF         .00     .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST5STR         .45     .040 No_date   28:04   38.69  n/a      .000
                      +     1.0 02:ST5OVF         .00     .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:ST5-E       356.68    4.181 No_date   29:15   20.87  n/a      .000
R0010:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:STRAND        7.59     .759 No_date   28:11   49.05 .758      .000
        [XIMP=.64:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:STRAND        7.59     .759 No_date   28:11   49.05  n/a      .000
                 out <=     1.0 01:S-POND        7.59     .066 No_date   29:41   49.05  n/a      .000
            overflow <=     1.0 03:S-OVF          .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.2593E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:ST5-E       356.68    4.181 No_date   29:15   20.87  n/a      .000
                      +     1.0 02:S-POND        7.59     .066 No_date   29:41   49.05  n/a      .000
                      +     1.0 02:S-OVF          .00     .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:SSAOUT      364.27    4.242 No_date   29:15   21.45  n/a      .000
R0010:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:SSAOUT      364.27    4.242 No_date   29:15   21.45  n/a      .000
        fname :SSAOUT.0010
        remark:SSAOUT
R0010:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:Area-A       66.75    6.470 No_date   28:10   48.24 .746      .000
        [XIMP=.64:TIMP=.80]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:Area-A       66.75    6.470 No_date   28:10   48.24  n/a      .000
        fname :Area-A.0010
        remark:SMWF-A Inflow
R0010:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:Area-A       66.75    6.470 No_date   28:10   48.24  n/a      .000
                 out <=     1.0 01:SWMF-A       66.75     .465 No_date   29:54   48.24  n/a      .000
            overflow <=     1.0 03:SWMAOV         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.2359E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:SWMF-A       66.75     .465 No_date   29:54   48.24  n/a      .000
        fname :SWMF-A.0010
        remark:SMWF-A Outflow
R0010:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:SSAOUT      364.27    4.242 No_date   29:15   21.45  n/a      .000
                      +     1.0 02:SWMF-A       66.75     .465 No_date   29:54   48.24  n/a      .000
                      +     1.0 02:SWMAOV         .00     .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT4ST5      431.02    4.657 No_date   29:18   25.60  n/a      .000
R0010:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:C6            1.87     .301 No_date   28:01   50.29 .777      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:C6            1.87     .301 No_date   28:01   50.29  n/a      .000
                 out <=     1.0 01:C6-STR        1.87     .074 No_date   28:22   50.29  n/a      .000
            overflow <=     1.0 03:C6-OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.4376E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:C7            1.62     .262 No_date   28:01   50.29 .777      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:C7            1.62     .262 No_date   28:01   50.29  n/a      .000
                 out <=     1.0 01:C7-STR        1.62     .064 No_date   28:22   50.29  n/a      .000
            overflow <=     1.0 03:C7-OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.3781E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:ST-6           .41     .053 No_date   28:00   38.69 .598      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:ST-6           .41     .053 No_date   28:00   38.69  n/a      .000
                 out <=     1.0 01:ST6STR         .41     .036 No_date   28:04   38.69  n/a      .000
            overflow <=     1.0 03:ST6OVF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.1514E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:PT4ST5      431.02    4.657 No_date   29:18   25.60  n/a      .000
                      +     1.0 02:C6-STR        1.87     .074 No_date   28:22   50.29  n/a      .000
                      +     1.0 02:C6-OVF         .00     .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:C7-STR        1.62     .064 No_date   28:22   50.29  n/a      .000
                      +     1.0 02:C7-OVF         .00     .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST6STR         .41     .036 No_date   28:04   38.69  n/a      .000
                      +     1.0 02:ST6OVF         .00     .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT5ST6      434.92    4.740 No_date   29:18   25.81  n/a      .000
R0010:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:PT5ST6      434.92    4.740 No_date   29:18   25.81  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN4      434.92    4.599 No_date   29:31   25.81  n/a      .000
        [L/S/n=  324./ .100/.043]
        {Vmax=  .468:Dmax= 1.312}
R0010:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:D4            1.73     .063 No_date   28:35   34.48 .533      .000
        [CN= 88.0: N= 3.00: Tp=  .60]
        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
        [InterEventTime= 12.00]
R0010:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:Area-B       24.04    3.287 No_date   28:03   47.09 .728      .000
        [XIMP=.62:TIMP=.77]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
R0010:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:Area-B       24.04    3.287 No_date   28:03   47.09  n/a      .000
                 out <=     1.0 01:SWMF-B       24.04     .356 No_date   28:50   47.09  n/a      .000
            overflow <=     1.0 03:SWMBOVF        .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.7142E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:DRAIN4      434.92    4.599 No_date   29:31   25.81  n/a      .000
                      +     1.0 02:D4            1.73     .063 No_date   28:35   34.48  n/a      .000
                      +     1.0 02:SWMF-B       24.04     .356 No_date   28:50   47.09  n/a      .000
                      +     1.0 02:SWMBOVF        .00     .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:D4-EX       460.69    4.958 No_date   29:31   26.95  n/a      .000
R0010:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:D4-EX       460.69    4.958 No_date   29:31   26.95  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN5      460.69    4.881 No_date   29:37   26.95  n/a      .000
        [L/S/n=  413./ .160/.033]
        {Vmax=  .599:Dmax=  .896}
R0010:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:D5            1.90     .057 No_date   28:41   32.13 .497      .000
        [CN= 86.0: N= 3.00: Tp=  .69]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime= 12.00]
R0010:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:O-13SDF       9.74     .371 No_date   28:22   30.32 .469      .000
        [CN= 81.0: N= 3.00: Tp=  .43]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime= 12.00]
R0010:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->    1.0 02:O-13SDF       9.74     .371 No_date   28:22   30.32  n/a      .000
                 out <=     1.0 01:SDF           9.74     .040 No_date   31:17   30.32  n/a      .000
            overflow <=     1.0 03:OVFSDF         .00     .000 No_date    0:00     .00  n/a      .000
        {MxStoUsed=.1596E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:DRAIN5      460.69    4.881 No_date   29:37   26.95  n/a      .000
                      +     1.0 02:D5            1.90     .057 No_date   28:41   32.13  n/a      .000
                      +     1.0 02:SDF           9.74     .040 No_date   31:17   30.32  n/a      .000
                   SUM=     1.0 01:PT6MC       472.33    4.951 No_date   29:37   27.04  n/a      .000
R0010:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:O-15         10.67     .502 No_date   28:13   29.12 .450      .000
        [CN= 82.0: N= 3.00: Tp=  .30]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime= 12.00]
R0010:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:PT6MC       472.33    4.951 No_date   29:37   27.04  n/a      .000
                      +     1.0 02:O-15         10.67     .502 No_date   28:13   29.12  n/a      .000
                   SUM=     1.0 01:M-C         483.00    5.029 No_date   29:36   27.09  n/a      .000
R0010:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:M-C         483.00    5.029 No_date   29:36   27.09  n/a      .000
       [RDT= 1.00] out<-    1.0 01:O-14Ch      483.00    4.686 No_date   30:11   27.09  n/a      .000
        [L/S/n=  845./ .100/.033]
        {Vmax=  .618:Dmax= 1.565}
R0010:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD     1.0 01:O-14          5.00     .389 No_date   28:04   29.12 .450      .000
        [CN= 82.0: N= 3.00: Tp=  .13]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime= 12.00]
R0010:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:O-14Ch      483.00    4.686 No_date   30:11   27.09  n/a      .000
                      +     1.0 02:O-14          5.00     .389 No_date   28:04   29.12  n/a      .000
                   SUM=     1.0 01:OKEEFE      488.00    4.709 No_date   30:11   27.11  n/a      .000
#*****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
R0010:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:S-1-D2       18.67    2.448 No_date   28:02   48.63 .752      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:S-1-D3        6.79     .967 No_date   28:01   48.63 .752      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=  .0]
        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=  .0]
        [IaRECimp=  4.00: IaRECper=  4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD               1.0 02:N_OK      53064.36   84.064 No_date   33:41   22.58  n/a      .000
                      +     1.0 02:OKEEFE      488.00    4.709 No_date   30:11   27.11  n/a      .000
                      +     1.0 02:S-1-D2       18.67    2.448 No_date   28:02   48.63  n/a      .000
                      +     1.0 02:S-1-D3        6.79     .967 No_date   28:01   48.63  n/a      .000
                   SUM=     1.0 01:SN_OK     53577.82   85.808 No_date   33:41   22.63  n/a      .000
R0010:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD              1.0 01:SN_OK     53577.82   85.808 No_date   33:41   22.63  n/a      .000
        fname :SN_OK.0010
        remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0010:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->    1.0 02:SN_OK     53577.82   85.808 No_date   33:41   22.63  n/a      .000
       [RDT= 1.00] out<-    1.0 01:N_FO      53577.82   85.561 No_date   34:07   22.63  n/a      .000
        [L/S/n= 1183./ .076/.035]
        {Vmax= 1.103:Dmax= 2.861}
#*****************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#*****************************************************************************
R0010:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:FOSTER      325.44   22.870 No_date   28:13   43.99 .680      .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=  .0]
```

```
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
R0010:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:FOSTER        325.44   22.870 No_date   28:13   43.99  n/a     .000
                out <=     1.0 01:P_FOS         325.44    6.061 No_date   29:06   43.99  n/a     .000
           overflow <=     1.0 03:FO-OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5862E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:P_FOS         325.44    6.061 No_date   29:06   43.99  n/a     .000
                    +      1.0 02:FO-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:FOSTER-OUT    325.44    6.061 No_date   29:06   43.99  n/a     .000
#*****************************************************************************
R0010:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA     73.29    7.523 No_date   28:05   47.94 .741     .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA     73.29    7.523 No_date   28:05   47.94  n/a     .000
                out <=     1.0 01:MS_P10         73.29    1.136 No_date   29:00   47.94  n/a     .000
           overflow <=     1.0 03:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1341E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-FO-D2       4.94     .594 No_date   28:01   43.99 .680     .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0010:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:FOSTER-OUT    325.44    6.061 No_date   29:06   43.99  n/a     .000
                    +      1.0 02:S-1-FO-D2       4.94     .594 No_date   28:01   43.99  n/a     .000
                 SUM=      1.0 01:980           330.38    6.115 No_date   29:04   43.99  n/a     .000
R0010:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:980           330.38    6.115 No_date   29:04   43.99  n/a     .000
        fname :980.0010
        remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0010:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:980           330.38    6.115 No_date   29:04   43.99  n/a     .000
     [RDT= 1.00] out<-     1.0 01:980-out       330.38    5.914 No_date   29:09   43.99  n/a     .000
        [L/S/n=  460./ .043/.035]
        {Vmax=  .634:Dmax= 1.381}
R0010:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-FO-D1       5.11     .702 No_date   28:00   48.24 .746     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0010:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:980-out       330.38    5.914 No_date   29:09   43.99  n/a     .000
                    +      1.0 02:S-1-FO-D1       5.11     .702 No_date   28:00   48.24  n/a     .000
                 SUM=      1.0 01:520           335.49    5.966 No_date   29:09   44.05  n/a     .000
R0010:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:520           335.49    5.966 No_date   29:09   44.05  n/a     .000
        fname :520.0010
        remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0010:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:520           335.49    5.966 No_date   29:09   44.05  n/a     .000
     [RDT= 1.00] out<-     1.0 01:520-out       335.49    5.922 No_date   29:29   44.05  n/a     .000
        [L/S/n=  860./ .587/.035]
        {Vmax= 1.391:Dmax=  .659}
R0010:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-FO-F-D     14.96    1.881 No_date   28:02   48.24 .746     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0010:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D8          5.27     .781 No_date   28:01   35.83 .554     .000
        [XIMP=.32:TIMP=.65]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-A          75.88    1.915 No_date   28:36   26.85 .415     .000
        [CN= 77.0: N= 3.00: Tp=  .62]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0010:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:W_CLAR_UND     35.65     .596 No_date   29:11   26.85 .415     .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0010:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_FO        53577.82   85.561 No_date   34:07   22.63  n/a     .000
                    +      1.0 02:520-out       335.49    5.922 No_date   29:29   44.05  n/a     .000
                    +      1.0 02:MS_P10         73.29    1.136 No_date   29:00   47.94  n/a     .000
                    +      1.0 02:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:W_CLAR_UND     35.65     .596 No_date   29:11   26.85  n/a     .000
                    +      1.0 02:S-1-FO-F-D     14.96    1.881 No_date   28:02   48.24  n/a     .000
                    +      1.0 02:S-1-D8          5.27     .781 No_date   28:01   35.83  n/a     .000
                    +      1.0 02:S-1-A          75.88    1.915 No_date   28:36   26.85  n/a     .000
                 SUM=      1.0 01:SN_FO       54118.36   89.084 No_date   33:33   22.82  n/a     .000
R0010:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_FO       54118.36   89.084 No_date   33:33   22.82  n/a     .000
        fname :SN_FO.0010
        remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0010:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_FO       54118.36   89.084 No_date   33:33   22.82  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_CE        54118.36   88.895 No_date   33:34   22.82  n/a     .000
        [L/S/n=  159./ .082/.035]
        {Vmax= 1.328:Dmax= 3.414}
#*****************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#*****************************************************************************
R0010:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-B          55.36    1.740 No_date   28:24   26.85 .415     .000
        [CN= 77.0: N= 3.00: Tp=  .45]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0010:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D1         21.67    2.814 No_date   28:02   48.63 .752     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D4          3.28     .489 No_date   28:00   48.63 .752     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D5         12.84    1.749 No_date   28:01   48.63 .752     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D6          1.75     .269 No_date   28:00   48.63 .752     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D7          2.03     .311 No_date   28:00   48.63 .752     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#*****************************************************************************
R0010:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ       1.77     .229 No_date   28:00   43.97 .680     .000
        [XIMP=.46:TIMP=.59]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0010:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ       1.77     .229 No_date   28:00   43.97  n/a     .000
                out <=     1.0 01:W_CLAR_MIn      1.77     .213 No_date   27:58   43.97  n/a     .000
           overflow <=     1.0 03:W_CLAR_Mj        .00     .013 No_date   28:00   43.97  n/a     .000
      {MxStoUsed=.8179E-04  m3, TotOvfVol=.1952E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0010:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40   12.497 No_date   28:05   47.94 .741     .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:W_CLAR_ALL    119.40   12.497 No_date   28:05   47.94  n/a     .000
                    +      1.0 02:W_CLAR_Mj        .00     .013 No_date   28:00   43.97  n/a     .000
                 SUM=      1.0 01:W_CLAR        119.40   12.497 No_date   28:05   47.94  n/a     .000
R0010:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:W_CLAR        119.40   12.497 No_date   28:05   47.94  n/a     .000
        fname :W_CLAR.0010
        remark:Total Flows to West Clarke
#*****************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*****************************************************************************
R0010:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR        119.40   12.497 No_date   28:05   47.94  n/a     .000
                out <=     1.0 01:MS_P2         119.40    3.959 No_date   28:33   47.94  n/a     .000
           overflow <=     1.0 03:P2-OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2802E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#*****************************************************************************
R0010:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_CE        54118.36   88.895 No_date   33:34   22.82  n/a     .000
                    +      1.0 02:S-1-D4          3.28     .489 No_date   28:00   48.63  n/a     .000
                    +      1.0 02:S-1-D5         12.84    1.749 No_date   28:01   48.63  n/a     .000
                    +      1.0 02:MS_P2         119.40    3.959 No_date   28:33   47.94  n/a     .000
                    +      1.0 02:P2-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:SN_CE       54253.88   89.720 No_date   33:34   22.88  n/a     .000
R0010:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_CE       54253.88   89.720 No_date   33:34   22.88  n/a     .000
        fname :SN_CE.0010
        remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0010:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_CE       54253.88   89.720 No_date   33:34   22.88  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:5737        54253.88   85.186 No_date   36:20   22.88  n/a     .000
        [L/S/n=  270./ .018/.035]
        {Vmax=  .729:Dmax= 4.467}
R0010:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:5737        54253.88   85.186 No_date   36:20   22.88  n/a     .000
                    +      1.0 02:S-1-D1         21.67    2.814 No_date   28:02   48.63  n/a     .000
                    +      1.0 02:S-1-D6          1.75     .269 No_date   28:00   48.63  n/a     .000
                    +      1.0 02:S-1-D7          2.03     .311 No_date   28:00   48.63  n/a     .000
                 SUM=      1.0 01:5002        54279.34   85.238 No_date   36:19   22.89  n/a     .000
R0010:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:5002        54279.34   85.238 No_date   36:19   22.89  n/a     .000
        fname :5002.0010
        remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0010:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:5002        54279.34   85.238 No_date   36:19   22.89  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_WCa       54279.34   85.270 No_date   35:56   22.89  n/a     .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.131:Dmax= 2.520}
R0010:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCa       54279.34   85.270 No_date   35:56   22.89  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_WCb       54279.34   85.708 No_date   35:56   22.89  n/a     .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.132:Dmax= 2.521}
R0010:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCb       54279.34   85.708 No_date   35:56   22.89  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_WC        54279.34   85.675 No_date   35:56   22.89  n/a     .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.133:Dmax= 2.526}
#*****************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0010:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WC        54279.34   85.675 No_date   35:56   22.89  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_KB        54279.34   85.488 No_date   35:57   22.89  n/a     .000
        [L/S/n= 1020./ .050/.035]
        {Vmax= 1.004:Dmax= 3.137}
#*****************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#*****************************************************************************
#*****************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#*****************************************************************************
R0010:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82    3.338 No_date   28:12   24.14 .373     .000
        [XIMP=.10:TIMP=.40]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01A         40.82    3.338 No_date   28:12   24.14  n/a     .000
     Major System   /      1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-01A-MN      40.82    3.338 No_date   28:12   24.14  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:KB-01A-MN      40.82    3.338 No_date   28:12   24.14  n/a     .000
                 SUM=      1.0 01:KB-01A-S       40.82    3.338 No_date   28:12   24.14  n/a     .000
R0010:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10    2.335 No_date   28:08   26.73 .413     .000
        [XIMP=.19:TIMP=.38]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01B         31.10    2.335 No_date   28:08   26.73  n/a     .000
     Major System   /      1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-01B-MN      31.10    1.585 No_date   27:59   26.78  n/a     .000
        {MjSysSto=.8272E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:KB-01B-MN      31.10    1.585 No_date   27:59   26.78  n/a     .000
                 SUM=      1.0 01:KB-01B-S       31.10    1.585 No_date   27:59   26.78  n/a     .000
R0010:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78    1.534 No_date   28:05   27.74 .429     .000
        [XIMP=.20:TIMP=.41]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01C         13.78    1.534 No_date   28:05   27.74  n/a     .000
     Major System   /      1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-01C-MN      13.78    1.350 No_date   28:00   27.93  n/a     .000
        {MjSysSto=.6901E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:KB-01C-MN      13.78    1.350 No_date   28:00   27.93  n/a     .000
                 SUM=      1.0 01:KB-01C-S       13.78    1.350 No_date   28:00   27.93  n/a     .000
R0010:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-03          84.78    7.685 No_date   28:09   27.30 .422     .000
        [XIMP=.20:TIMP=.39]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-03          84.78    7.685 No_date   28:09   27.30  n/a     .000
     Major System   /      1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-03-MN       84.78    5.270 No_date   27:59   27.40  n/a     .000
        {MjSysSto=.2022E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:KB-03-MN       84.78    5.270 No_date   27:59   27.40  n/a     .000
                 SUM=      1.0 01:KB-03-S        84.78    5.270 No_date   27:59   27.40  n/a     .000
R0010:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-04           6.95    1.217 No_date   28:01   56.45 .873     .000
        [XIMP=.85:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-04           6.95    1.217 No_date   28:01   56.45  n/a     .000
     Major System   /      1.0 02:KB-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-04-MN        6.95     .503 No_date   27:46   56.53  n/a     .000
        {MjSysSto=.5392E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
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      ADD HYD                1.0 02:KB-04-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:KB-04-MN        6.95       .503 No_date   27:46   56.53  n/a      .000
                      SUM=   1.0 01:KB-04-S         6.95       .503 No_date   27:46   56.53  n/a      .000
 R0010:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-05           5.19       .983 No_date   28:00   59.76 .924      .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-06          12.93      2.536 No_date   28:00   57.57 .890      .000
        [XIMP=.87:TIMP=.87]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-06          12.93      2.536 No_date   28:00   57.57  n/a      .000
       Major System   /      1.0 02:KB-06-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-06-MN       12.93      2.262 No_date   27:56   57.80  n/a      .000
        {MjSysSto=.6369E+02,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-06-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:KB-06-MN       12.93      2.262 No_date   27:56   57.80  n/a      .000
                      SUM=   1.0 01:KB-06-S        12.93      2.262 No_date   27:56   57.80  n/a      .000
 R0010:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-11           4.03       .686 No_date   28:00   48.04 .743      .000
        [XIMP=.68:TIMP=.68]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-11           4.03       .686 No_date   28:00   48.04  n/a      .000
       Major System   /      1.0 02:KB-11-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-11-MN        4.03       .577 No_date   27:55   48.44  n/a      .000
        {MjSysSto=.2954E+02,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-11-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:KB-11-MN        4.03       .577 No_date   27:55   48.44  n/a      .000
                      SUM=   1.0 01:KB-11-S         4.03       .577 No_date   27:55   48.44  n/a      .000
 R0010:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:S1              4.99      1.020 No_date   28:00   59.76 .924      .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-15           2.15       .377 No_date   28:00   54.15 .837      .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-01A-S       40.82      3.338 No_date   28:12   24.14  n/a      .000
                         +   1.0 02:KB-01B-S       31.10      1.585 No_date   27:59   26.78  n/a      .000
                         +   1.0 02:KB-01C-S       13.78      1.350 No_date   28:00   27.93  n/a      .000
                         +   1.0 02:KB-03-S        84.78      5.270 No_date   27:59   27.40  n/a      .000
                         +   1.0 02:KB-04-S         6.95       .503 No_date   27:46   56.53  n/a      .000
                         +   1.0 02:KB-05           5.19       .983 No_date   28:00   59.76  n/a      .000
                         +   1.0 02:KB-06-S        12.93      2.262 No_date   27:56   57.80  n/a      .000
                         +   1.0 02:KB-11-S         4.03       .577 No_date   27:55   48.44  n/a      .000
                         +   1.0 02:KB-15           2.15       .377 No_date   28:00   54.15  n/a      .000
                         +   1.0 02:S1              4.99      1.020 No_date   28:00   59.76  n/a      .000
                      SUM=   1.0 01:KB-P1         206.72     16.418 No_date   28:01   31.86  n/a      .000
 R0010:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:KB-P1         206.72     16.418 No_date   28:01   31.86  n/a      .000
                     out <=  1.0 01:KB-P1R        206.72     12.427 No_date   28:17   31.86  n/a      .000
                overflow <=  1.0 03:KB-P1ovf         .00       .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.7282E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-P1R        206.72     12.427 No_date   28:17   31.86  n/a      .000
                         +   1.0 02:KB-P1ovf         .00       .000 No_date    0:00     .00  n/a      .000
                      SUM=   1.0 01:KB-Pond1      206.72     12.427 No_date   28:17   31.86  n/a      .000
 R0010:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:KB-Pond1      206.72     12.427 No_date   28:17   31.86  n/a      .000
        fname :KB-Pond1.0010
        remark:Total Flows at KB first pond
 R0010:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-07          10.86      2.042 No_date   28:00   57.07 .882      .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-07          10.86      2.042 No_date   28:00   57.07  n/a      .000
       Major System   /      1.0 02:KB-07-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-07-MN       10.86      2.042 No_date   28:00   57.07  n/a      .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-07-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:KB-07-MN       10.86      2.042 No_date   28:00   57.07  n/a      .000
                      SUM=   1.0 01:KB-07-S        10.86      2.042 No_date   28:00   57.07  n/a      .000
 R0010:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-08           6.61      1.072 No_date   28:00   46.33 .716      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-08           6.61      1.072 No_date   28:00   46.33  n/a      .000
       Major System   /      1.0 02:KB-08-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-08-MN        6.61      1.058 No_date   28:00   46.37  n/a      .000
        {MjSysSto=.9091E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-08-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:KB-08-MN        6.61      1.058 No_date   28:00   46.37  n/a      .000
                      SUM=   1.0 01:KB-08-S         6.61      1.058 No_date   28:00   46.37  n/a      .000
 R0010:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-09           2.60       .515 No_date   28:00   56.40 .872      .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-10_1         2.37       .470 No_date   28:00   56.40 .872      .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-10_2         1.14       .229 No_date   28:00   56.40 .872      .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-12           4.86       .900 No_date   28:00   53.41 .826      .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-12           4.86       .900 No_date   28:00   53.41  n/a      .000
       Major System   /      1.0 02:KB-12-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-12-MN        4.86       .867 No_date   27:58   53.47  n/a      .000
        {MjSysSto=.3261E+01,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-12-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:KB-12-MN        4.86       .867 No_date   27:58   53.47  n/a      .000
                      SUM=   1.0 01:KB-12-S         4.86       .867 No_date   27:58   53.47  n/a      .000
 R0010:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-13          10.19      1.611 No_date   28:00   46.33 .716      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-13          10.19      1.611 No_date   28:00   46.33  n/a      .000
       Major System   /      1.0 02:KB-13-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-13-MN       10.19      1.611 No_date   28:00   46.33  n/a      .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-13-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:KB-13-MN       10.19      1.611 No_date   28:00   46.33  n/a      .000
                      SUM=   1.0 01:KB-13-S        10.19      1.611 No_date   28:00   46.33  n/a      .000
 R0010:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-14           5.47       .898 No_date   28:00   46.33 .716      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-14           5.47       .898 No_date   28:00   46.33  n/a      .000
       Major System   /      1.0 02:KB-14-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:KB-14-MN        5.47       .873 No_date   27:59   46.40  n/a      .000
        {MjSysSto=.1663E+01,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-14-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:KB-14-MN        5.47       .873 No_date   27:59   46.40  n/a      .000
                      SUM=   1.0 01:KB-14-S         5.47       .873 No_date   27:59   46.40  n/a      .000
 R0010:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-16_2         3.42       .545 No_date   28:01   50.20 .776      .000
        [XIMP=.71:TIMP=.71]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-Pond1      206.72     12.427 No_date   28:17   31.86  n/a      .000
                         +   1.0 02:KB-07-S        10.86      2.042 No_date   28:00   57.07  n/a      .000
                         +   1.0 02:KB-08-S         6.61      1.058 No_date   28:00   46.37  n/a      .000
                         +   1.0 02:KB-09           2.60       .515 No_date   28:00   56.40  n/a      .000
                         +   1.0 02:KB-10_1         2.37       .470 No_date   28:00   56.40  n/a      .000
                         +   1.0 02:KB-10_2         1.14       .229 No_date   28:00   56.40  n/a      .000
                         +   1.0 02:KB-12-S         4.86       .867 No_date   27:58   53.47  n/a      .000
                         +   1.0 02:KB-13-S        10.19      1.611 No_date   28:00   46.33  n/a      .000
                         +   1.0 02:KB-14-S         5.47       .873 No_date   27:59   46.40  n/a      .000
                         +   1.0 02:KB-16_2         3.42       .545 No_date   28:01   50.20  n/a      .000
                      SUM=   1.0 01:KB-P2         254.24     19.235 No_date   28:01   35.46  n/a      .000
 R0010:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:KB-P2         254.24     19.235 No_date   28:01   35.46  n/a      .000
                     out <=  1.0 01:KB-P2R        254.24     15.083 No_date   28:10   35.46  n/a      .000
                overflow <=  1.0 03:KB-P2ovf         .00       .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.7575E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-P2R        254.24     15.083 No_date   28:10   35.46  n/a      .000
                         +   1.0 02:KB-P2ovf         .00       .000 No_date    0:00     .00  n/a      .000
                      SUM=   1.0 01:KB-Pond2      254.24     15.083 No_date   28:10   35.46  n/a      .000
 R0010:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:KB-Pond2      254.24     15.083 No_date   28:10   35.46  n/a      .000
        fname :KB-Pond2.0010
        remark:Total Flows at KB second pond
 R0010:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-16_1         2.80       .465 No_date   28:01   52.17 .806      .000
        [XIMP=.75:TIMP=.75]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-Pond2      254.24     15.083 No_date   28:10   35.46  n/a      .000
                         +   1.0 02:KB-16_1         2.80       .465 No_date   28:01   52.17  n/a      .000
                      SUM=   1.0 01:KB-P3         257.04     15.295 No_date   28:08   35.64  n/a      .000
 R0010:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:KB-P3         257.04     15.295 No_date   28:08   35.64  n/a      .000
                     out <=  1.0 01:KB-P3R         12.26       .051 No_date   17:31   35.64  n/a      .000
                overflow <=  1.0 03:KB-P3ovf      244.78     15.243 No_date   28:09   35.64  n/a      .000
       {MxStoUsed=.1993E-02  m3,  TotOvfVol=.8724E+01  m3,  N-Ovf=     2,  TotDurOvf=    23.hrs}
 R0010:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-P3R         12.26       .051 No_date   17:31   35.64  n/a      .000
                         +   1.0 02:KB-P3ovf      244.78     15.243 No_date   28:09   35.64  n/a      .000
                      SUM=   1.0 01:KB-Pond3      257.04     15.294 No_date   28:09   35.64  n/a      .000
 R0010:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:KB-Pond3      257.04     15.294 No_date   28:09   35.64  n/a      .000
        fname :KB-Pond3.0010
        remark:Total Flows at KB third pond
 #******************************************************************************
 #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
 #    - TO FRASER-CLARKE DRAIN
 #******************************************************************************
 R0010:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-01           8.03      1.049 No_date   28:01   37.67 .582      .000
        [XIMP=.47:TIMP=.47]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-01           8.03      1.049 No_date   28:01   37.67  n/a      .000
       Major System   /      1.0 02:FC-01-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:FC-01-MN        8.03       .756 No_date   28:17   37.91  n/a      .000
        {MjSysSto=.1270E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-01-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:FC-01-MN        8.03       .756 No_date   27:55   37.91  n/a      .000
                      SUM=   1.0 01:FC-01-S         8.03       .756 No_date   27:55   37.91  n/a      .000
 R0010:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-02          16.05      2.930 No_date   28:01   59.76 .924      .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-02          16.05      2.930 No_date   28:01   59.76  n/a      .000
       Major System   /      1.0 02:FC-02-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:FC-02-MN       16.05      1.159 No_date   27:46   59.94  n/a      .000
        {MjSysSto=.1407E+04,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-02-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:FC-02-MN       16.05      1.159 No_date   27:46   59.94  n/a      .000
                      SUM=   1.0 01:FC-02-S        16.05      1.159 No_date   27:46   59.94  n/a      .000
 R0010:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-03           7.37      1.130 No_date   28:01   45.83 .708      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-03           7.37      1.130 No_date   28:01   45.83  n/a      .000
       Major System   /      1.0 02:FC-03-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:FC-03-MN        7.37       .358 No_date   27:45   45.93  n/a      .000
        {MjSysSto=.6763E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-03-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:FC-03-MN        7.37       .358 No_date   27:45   45.93  n/a      .000
                      SUM=   1.0 01:FC-03-S         7.37       .358 No_date   27:45   45.93  n/a      .000
 R0010:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-04          12.87      1.906 No_date   28:01   45.83 .708      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-04          12.87      1.906 No_date   28:01   45.83  n/a      .000
       Major System   /      1.0 02:FC-04-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:FC-04-MN       12.87       .741 No_date   27:46   45.93  n/a      .000
        {MjSysSto=.9380E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-04-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:FC-04-MN       12.87       .741 No_date   27:46   45.93  n/a      .000
                      SUM=   1.0 01:FC-04-S        12.87       .741 No_date   27:46   45.93  n/a      .000
 #******************************************************************************
 #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
 #    - TO JOCK RIVER
 #******************************************************************************
 R0010:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:JR-01           8.24      1.257 No_date   28:01   45.83 .708      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:JR-01           8.24      1.257 No_date   28:01   45.83  n/a      .000
       Major System   /      1.0 02:JR-01-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:JR-01-MN        8.24       .563 No_date   28:39   46.14  n/a      .000
        {MjSysSto=.4889E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:JR-01-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:JR-01-MN        8.24       .563 No_date   27:47   46.14  n/a      .000
                      SUM=   1.0 01:JR-01-S         8.24       .563 No_date   27:47   46.14  n/a      .000
 R0010:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:JR-02           1.59       .264 No_date   28:00   45.83 .708      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
 R0010:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:JR-02           1.59       .264 No_date   28:00   45.83  n/a      .000
       Major System   /      1.0 02:JR-02-MJ         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:JR-02-MN        1.59       .153 No_date   27:51   46.12  n/a      .000
        {MjSysSto=.5453E+02,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:JR-02-MJ         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:JR-02-MN        1.59       .153 No_date   27:51   46.12  n/a      .000
                      SUM=   1.0 01:JR-02-S         1.59       .153 No_date   27:51   46.12  n/a      .000
 #******************************************************************************
 #    Catchment FRASER
 #    - To Fraser-Clarke drain (north of the Jock)
 #    - Developed land with assumed 43% imp.
 #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
 #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
 #******************************************************************************
 R0010:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:FRASER-DRN     13.65       .447 No_date   28:22   26.85 .415      .000
        [CN= 77.0:  N= 3.00:  Tp=  .43]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
 R0010:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FRASER-D       21.61      2.700 No_date   28:01   47.42 .733      .000
        [XIMP=.58:TIMP=.58]
        [LOSS= 2 :CN= 80.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
        [SMIN= 26.32:  SMAX=175.50:  SK= .010]
 R0010:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FRASER-D       21.61      2.700 No_date   28:01   47.42  n/a      .000
       Major System   /      1.0 02:FRASER-J         .00       .000 No_date    0:00     .00  n/a      .000
       Minor System   \      1.0 03:FRASER-N       21.61      2.281 No_date   27:57   47.46  n/a      .000
        {MjSysSto=.1390E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
 R0010:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FRASER-J         .00       .000 No_date    0:00     .00  n/a      .000
                         +   1.0 02:FRASER-N       21.61      2.281 No_date   27:57   47.46  n/a      .000
                      SUM=   1.0 01:FRASER-S       21.61      2.281 No_date   27:57   47.46  n/a      .000
 R0010:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-Pond3      257.04     15.294 No_date   28:09   35.64  n/a      .000
                         +   1.0 02:S-1-B          55.36      1.740 No_date   28:24   26.85  n/a      .000
```

```
                      +      1.0 02:FRASER-DRN     13.65     .447 No_date   28:22   26.85  n/a     .000
                      +      1.0 02:FRASER-S       21.61    2.281 No_date   27:57   47.46  n/a     .000
                      +      1.0 02:N_KB        54279.34   85.488 No_date   35:57   22.89  n/a     .000
                      +      1.0 02:FC-01-S         8.03     .756 No_date   27:55   37.91  n/a     .000
                      +      1.0 02:FC-02-S        16.05    1.159 No_date   27:46   59.94  n/a     .000
                      +      1.0 02:FC-03-S         7.37     .358 No_date   27:45   45.93  n/a     .000
                   SUM=      1.0 01:4241        54658.45   86.106 No_date   35:57   22.98  n/a     .000
R0010:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:4241        54658.45   86.106 No_date   35:57   22.98  n/a     .000
      fname :4241.0010
      remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0010:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:4241        54658.45   86.106 No_date   35:57   22.98  n/a     .000
     [RDT= 1.00] out<-       1.0 01:4241-out    54658.45   86.076 No_date   35:57   22.98  n/a     .000
      [L/S/n=  294./ .109/.035]
      {Vmax= 1.173:Dmax= 2.018}
R0010:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:4241-out    54658.45   86.076 No_date   35:57   22.98  n/a     .000
                      +      1.0 02:FC-04-S        12.87     .741 No_date   27:46   45.93  n/a     .000
                      +      1.0 02:JR-01-S         8.24     .563 No_date   27:47   46.14  n/a     .000
                      +      1.0 02:JR-02-S         1.59     .153 No_date   27:51   46.12  n/a     .000
                   SUM=      1.0 01:SN_KB       54681.14   86.123 No_date   35:57   22.99  n/a     .000
R0010:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:SN_KB       54681.14   86.123 No_date   35:57   22.99  n/a     .000
      fname :SN_KB.0010
      remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0010:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:SN_KB       54681.14   86.123 No_date   35:57   22.99  n/a     .000
     [RDT= 1.00] out<-       1.0 01:N_TO        54681.14   85.255 No_date   37:08   22.99  n/a     .000
      [L/S/n=  608./ .247/.035]
      {Vmax= 1.555:Dmax= 1.520}
#**************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#**************************************************************************
R0010:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:Greenbank      36.60    4.662 No_date   28:02   49.38 .763     .000
      [XIMP=.64:TIMP=.68]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:Greenbank      36.60    4.662 No_date   28:02   49.38  n/a     .000
                  out <=     1.0 01:GreenB_MN      36.60    1.697 No_date   28:18   49.38  n/a     .000
             overflow <=     1.0 03:GreenB_MJ        .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.8299E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N_TO        54681.14   85.255 No_date   37:08   22.99  n/a     .000
                      +      1.0 02:GreenB_MJ        .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:GreenB_MN      36.60    1.697 No_date   28:18   49.38  n/a     .000
                   SUM=      1.0 01:GreenB      54717.74   85.389 No_date   35:58   23.01  n/a     .000
R0010:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:GreenB      54717.74   85.389 No_date   35:58   23.01  n/a     .000
      fname :GreenB.0010
      remark:Total Flows at Greenbank Drain
#**************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#**************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0010:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_MN2        2.10     .282 No_date   28:00   44.92 .694     .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_MN3         .12     .016 No_date   28:00   44.90 .694     .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_MJ        30.23    3.512 No_date   28:02   46.20 .714     .000
      [XIMP=.52:TIMP=.64]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_ALL      112.91   10.943 No_date   28:05   44.71 .691     .000
      [XIMP=.52:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:TODD_P          3.06     .451 No_date   28:00   48.23 .745     .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0010:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:TODD_MJ        30.23    3.512 No_date   28:02   46.20  n/a     .000
                  out <=     1.0 01:TODD_MJn       30.14    3.314 No_date   28:00   46.20  n/a     .000
             overflow <=     1.0 03:TODD_MJj         .09     .190 No_date   28:03   46.20  n/a     .000
     {MxStoUsed=.4110E-03  m3, TotOvfVol=.4062E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0010:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:TODD_MN2        2.10     .282 No_date   28:00   44.92  n/a     .000
                  out <=     1.0 01:TODD_MN2n       2.10     .268 No_date   27:58   44.92  n/a     .000
             overflow <=     1.0 03:TODD_MN2j        .00     .011 No_date   28:00   44.92  n/a     .000
     {MxStoUsed=.1267E-03  m3, TotOvfVol=.1440E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0010:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:TODD_MN3         .12     .016 No_date   28:00   44.90  n/a     .000
                  out <=     1.0 01:TODD_MN3n        .12     .016 No_date   28:00   44.90  n/a     .000
             overflow <=     1.0 03:TODD_MN3j        .00     .000 No_date   28:00   44.90  n/a     .000
     {MxStoUsed=.1007E-03  m3, TotOvfVol=.1379E-05  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0010:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A2             25.50    2.388 No_date   28:03   40.97 .633     .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:A2             25.50    2.388 No_date   28:03   40.97  n/a     .000
     Major System   /        1.0 02:A2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:A2-MN          25.50    1.818 No_date   27:57   40.97  n/a     .000
      {MJSysSto=.2896E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:TODD_MN2n       2.10     .268 No_date   27:58   44.92  n/a     .000
                      +      1.0 02:TODD_MN3n        .12     .016 No_date   28:00   44.90  n/a     .000
                      +      1.0 02:TODD_MJj         .09     .190 No_date   28:03   46.20  n/a     .000
                      +      1.0 02:TODD_P          3.06     .451 No_date   28:00   48.23  n/a     .000
                      +      1.0 02:TODD_ALL      112.91   10.943 No_date   28:05   44.71  n/a     .000
                      +      1.0 02:W_CLAR_MJn      1.77     .213 No_date   27:58   43.97  n/a     .000
                   SUM=      1.0 01:TODD          120.03   11.699 No_date   28:03   44.79  n/a     .000
R0010:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:TODD          120.03   11.699 No_date   28:03   44.79  n/a     .000
      fname :TODD.0010
      remark:Total Flows at Todd Drain
#**************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#**************************************************************************
R0010:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:TODD          120.03   11.699 No_date   28:03   44.79  n/a     .000
                  out <=     1.0 01:MS_P3         120.03    6.151 No_date   28:20   44.79  n/a     .000
             overflow <=     1.0 03:P3-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2461E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:GreenB      54717.74   85.389 No_date   35:58   23.01  n/a     .000
                      +      1.0 02:MS_P3         120.03    6.151 No_date   28:20   44.79  n/a     .000
                      +      1.0 02:P3-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:TODD_MN2j        .00     .011 No_date   28:00   44.92  n/a     .000
                      +      1.0 02:A2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=      1.0 01:SN_TO       54837.78   85.715 No_date   35:58   23.06  n/a     .000
R0010:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:SN_TO       54837.78   85.715 No_date   35:58   23.06  n/a     .000
      fname :SN_TO.0010
      remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 %so the model will be more stable and g
R0010:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:SN_TO       54837.78   85.715 No_date   35:58   23.06  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:N_TO        54837.78   85.046 No_date   37:15   23.06  n/a     .000
      [L/S/n=  280./ .050/.045]
      {Vmax=  .881:Dmax= 2.851}
R0010:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:N_TO        54837.78   85.046 No_date   37:15   23.06  n/a     .000
      fname :N_TO.0010
      remark:Total inflows at Station 2462
#**************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#**************************************************************************
R0010:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:corr1          15.87    2.113 No_date   28:01   48.23 .746     .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:corr1          15.87    2.113 No_date   28:01   48.23  n/a     .000
     Major System   /        1.0 02:corr1-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:corr1-MN       15.87    1.818 No_date   28:09   48.38  n/a     .000
      {MJSysSto=.8936E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:corr2          12.47     .209 No_date   29:11   26.85 .415     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0010:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A1-Corrig      15.75    1.640 No_date   28:02   40.97 .633     .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:A1-Corrig      15.75    1.640 No_date   28:02   40.97  n/a     .000
     Major System   /        1.0 02:A1-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:A1-MN          15.75    1.640 No_date   28:02   40.97  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:B1              2.77     .072 No_date   28:09   16.64 .257     .000
      [CN= 56.0: N= 3.00: Tp=  .23]
      [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
      [InterEventTime=  12.00]
R0010:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A4              1.27     .178 No_date   28:00   48.63 .752     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:A4              1.27     .178 No_date   28:00   48.63  n/a     .000
     Major System   /        1.0 02:A4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:A4-MN           1.27     .178 No_date   28:00   48.63  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:A1-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:A1-MN          15.75    1.640 No_date   28:02   40.97  n/a     .000
                      +      1.0 02:corr1-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:corr1-MN       15.87    1.818 No_date   28:09   48.38  n/a     .000
                      +      1.0 02:corr2          12.47     .209 No_date   29:11   26.85  n/a     .000
                      +      1.0 02:B1              2.77     .072 No_date   28:09   16.64  n/a     .000
                      +      1.0 02:A4-MN           1.27     .178 No_date   28:00   48.63  n/a     .000
                   SUM=      1.0 01:MH101          48.13    3.734 No_date   28:02   38.56  n/a     .000
R0010:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:MH101          48.13    3.734 No_date   28:02   38.56  n/a     .000
      fname :MH101.0010
      remark:Total Flows at MH101
R0010:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->       1.0 02:MH101          48.13    3.734 No_date   28:02   38.56  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:101-102        48.13    3.662 No_date   28:03   38.56  n/a     .000
      [L/S/n=  368./ .540/.013]
      {Vmax= 3.084:Dmax= 1.088}
      [Din= 1.05:Dused= 1.33}
R0010:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:A2-MN          25.50    1.818 No_date   27:57   40.97  n/a     .000
                      +      1.0 02:101-102        48.13    3.662 No_date   28:03   38.56  n/a     .000
                   SUM=      1.0 01:MH102          73.63    5.480 No_date   28:03   39.39  n/a     .000
R0010:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:MH102          73.63    5.480 No_date   28:03   39.39  n/a     .000
      fname :MH102.0010
      remark:Total Flows at MH102
R0010:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A5              1.60     .236 No_date   28:01   51.11 .790     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:A4-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:A5              1.60     .236 No_date   28:01   51.11  n/a     .000
                   SUM=      1.0 01:A5T             1.60     .236 No_date   28:01   51.11  n/a     .000
R0010:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:A5T             1.60     .236 No_date   28:01   51.11  n/a     .000
     Major System   /        1.0 02:A5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:A5-MN           1.60     .236 No_date   28:01   51.11  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->       1.0 02:MH102          73.63    5.480 No_date   28:03   39.39  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:102-103        73.63    5.291 No_date   28:06   39.39  n/a     .000
      [L/S/n=  504./ .280/.013]
      {Vmax= 2.654:Dmax= 1.421}
      [Din= 1.50:Dused= 1.73}
R0010:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:102-103        73.63    5.291 No_date   28:06   39.39  n/a     .000
                      +      1.0 02:A5-MN           1.60     .236 No_date   28:01   51.11  n/a     .000
                   SUM=      1.0 01:MH103          75.23    5.462 No_date   28:05   39.64  n/a     .000
R0010:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:MH103          75.23    5.462 No_date   28:05   39.64  n/a     .000
      fname :MH103.0010
      remark:Total Flows at MH103
R0010:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->       1.0 02:MH103          75.23    5.462 No_date   28:05   39.64  n/a     .000
     [RDT= 1.00] out<-       1.0 01:103-104        75.23    5.382 No_date   28:07   39.64  n/a     .000
      [L/S/n=  438./ .460/.013]
      {Vmax= 3.265:Dmax= 1.205}
      [Din= 1.65:Dused= 1.65}
R0010:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A6              1.56     .232 No_date   28:00   51.11 .790     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:A5-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                      +      1.0 02:A6              1.56     .232 No_date   28:00   51.11  n/a     .000
                   SUM=      1.0 01:A6T             1.56     .232 No_date   28:00   51.11  n/a     .000
R0010:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:A6T             1.56     .232 No_date   28:00   51.11  n/a     .000
     Major System   /        1.0 02:A6-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:A6-MN           1.56     .232 No_date   28:00   51.11  n/a     .000
      {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:A6-MN           1.56     .232 No_date   28:00   51.11  n/a     .000
                      +      1.0 02:103-104        75.23    5.382 No_date   28:07   39.64  n/a     .000
                      +      1.0 02:TODD_MJn       30.14    3.314 No_date   28:00   46.20  n/a     .000
                   SUM=      1.0 01:MH104         106.93    8.816 No_date   28:05   41.66  n/a     .000
R0010:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:MH104         106.93    8.816 No_date   28:05   41.66  n/a     .000
      fname :MH104.0010
      remark:Total Flows at MH104
R0010:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B2             12.31    1.229 No_date   28:02   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:B2             12.31    1.229 No_date   28:02   41.19  n/a     .000
     Major System   /        1.0 02:B2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:B2-MN          12.31    1.029 No_date   27:58   41.28  n/a     .000
      {MJSysSto=.7604E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE PIPE      ->       1.0 02:B2-MN          12.31    1.029 No_date   27:58   41.28  n/a     .000
     [RDT= 1.00] out<-       1.0 01:315-333        12.31    1.019 No_date   28:12   41.28  n/a     .000
      [L/S/n=  254./ .100/.013]
      {Vmax= 1.220:Dmax=  .838}
      [Din= 1.20:Dused= 1.20}
R0010:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B3              5.59     .579 No_date   28:02   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:B3              5.59     .579 No_date   28:02   41.19  n/a     .000
     Major System   /        1.0 02:B3-MJ            .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \        1.0 03:B3-MN           5.59     .459 No_date   27:57   41.35  n/a     .000
      {MJSysSto=.4795E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:B3-MN           5.59     .459 No_date   27:57   41.35  n/a     .000
                      +      1.0 02:315-333        12.31    1.019 No_date   28:12   41.28  n/a     .000
                   SUM=      1.0 01:MH333          17.90    1.478 No_date   28:12   41.30  n/a     .000
R0010:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:MH333          17.90    1.478 No_date   28:12   41.30  n/a     .000
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        fname :MH333.0010
        remark:Total Flows at MH333
R0010:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH333           17.90     1.478 No_date    28:12    41.30  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:333-335         17.90     1.450 No_date    28:14    41.30  n/a      .000
        [L/S/n=  251./ .100/.013]
        {Vmax= 1.300:Dmax= 1.054}
        [Din= 1.20:Dused= 1.28}
R0010:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:333-335         17.90     1.450 No_date    28:14    41.30  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:335-338         17.90     1.447 No_date    28:14    41.30  n/a      .000
        [L/S/n=  185./ .100/.013]
        {Vmax= 1.294:Dmax= 1.047}
        [Din= 1.20:Dused= 1.28}
R0010:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:335-338         17.90     1.447 No_date    28:14    41.30  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:338-340         17.90     1.418 No_date    28:15    41.30  n/a      .000
        [L/S/n=  233./ .100/.013]
        {Vmax= 1.325:Dmax=  .963}
        [Din= 1.35:Dused= 1.35}
R0010:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:B4               7.60      .768 No_date    28:02    41.19 .637      .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B4               7.60      .768 No_date    28:02    41.19  n/a      .000
      Major System   /       1.0 02:B4-MJ             .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:B4-MN            7.60      .655 No_date    27:58    41.31  n/a      .000
        {MjSysSto=.3770E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:338-340         17.90     1.418 No_date    28:15    41.30  n/a      .000
                      +      1.0 02:B4-MN            7.60      .655 No_date    27:58    41.31  n/a      .000
                   SUM=      1.0 01:MH340           25.50     2.022 No_date    28:12    41.30  n/a      .000
R0010:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH340           25.50     2.022 No_date    28:12    41.30  n/a      .000
        fname :MH340.0010
        remark:Total Flows at MH340
R0010:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH340           25.50     2.022 No_date    28:12    41.30  n/a      .000
      [RDT= 1.00] out<-      1.0 01:340-104         25.50     1.986 No_date    28:12    41.30  n/a      .000
        [L/S/n=  240./ .150/.013]
        {Vmax= 1.706:Dmax=  .895}
        [Din= 1.65:Dused= 1.65}
R0010:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:340-104         25.50     1.986 No_date    28:12    41.30  n/a      .000
                      +      1.0 02:MH104          106.93     8.816 No_date    28:05    41.66  n/a      .000
                   SUM=      1.0 01:MH104T         132.43    10.636 No_date    28:05    41.59  n/a      .000
R0010:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH104T         132.43    10.636 No_date    28:05    41.59  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:104-105        132.43    10.007 No_date    28:06    41.59  n/a      .000
        [L/S/n=  380./ .100/.013]
        {Vmax= 2.071:Dmax= 1.952}
        {HGTH= 2.30:WDTH= 2.63}
R0010:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:B5               2.20      .291 No_date    28:00    45.32 .701      .000
        [XIMP=.57:TIMP=.57]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B5               2.20      .291 No_date    28:00    45.32  n/a      .000
      Major System   /       1.0 02:B5-MJ             .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:B5-MN            2.20      .260 No_date    27:57    45.39  n/a      .000
        {MjSysSto=.6886E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A8                .96      .151 No_date    28:00    51.11 .790      .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:A6-MJ             .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:A8                .96      .151 No_date    28:00    51.11  n/a      .000
                   SUM=      1.0 01:A8T               .96      .151 No_date    28:00    51.11  n/a      .000
R0010:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A8T               .96      .151 No_date    28:00    51.11  n/a      .000
      Major System   /       1.0 02:A8-MJ             .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:A8-MN             .96      .151 No_date    28:00    51.11  n/a      .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:104-105        132.43    10.007 No_date    28:06    41.59  n/a      .000
                      +      1.0 02:B5-MN            2.20      .260 No_date    27:57    45.39  n/a      .000
                      +      1.0 02:A8-MN             .96      .151 No_date    28:00    51.11  n/a      .000
                      +      1.0 02:TODD_MN3j         .00      .000 No_date    28:00    44.90  n/a      .000
                   SUM=      1.0 01:MH105          135.59    10.343 No_date    28:05    41.72  n/a      .000
R0010:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH105          135.59    10.343 No_date    28:05    41.72  n/a      .000
        fname :MH105.0010
        remark:Total Flows at MH105
R0010:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *   DIVERT HYD       ->     1.0 01:A8-MJ             .00      .000 No_date     0:00      .00  n/a      .000
            diverted <=      1.0 02:A8-MJ-JR          .00      .000 No_date     0:00      .00  n/a      .000
            diverted <=      1.0 03:A8-MJ-B6          .00      .000 No_date     0:00      .00  n/a      .000
R0010:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     DIVERT HYD       ->     1.0 01:MH105          135.59    10.343 No_date    28:05    41.72  n/a      .000
            diverted <=      1.0 02:MH105-JR        28.70     7.335 No_date    28:05    41.72  n/a      .000
            diverted <=      1.0 03:MH105-B6       106.90     3.008 No_date    28:05    41.72  n/a      .000
R0010:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:B7               7.19      .792 No_date    28:01    41.19 .637      .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:B4-MJ             .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:B7               7.19      .792 No_date    28:01    41.19  n/a      .000
                   SUM=      1.0 01:B7-B4MJ          7.19      .792 No_date    28:01    41.19  n/a      .000
R0010:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B7-B4MJ          7.19      .792 No_date    28:01    41.19  n/a      .000
      Major System   /       1.0 02:B7R-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:B7R-MN           7.19      .629 No_date    27:55    41.31  n/a      .000
        {MjSysSto=.5641E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:B7R-MN           7.19      .629 No_date    27:55    41.31  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:360-106A         7.19      .628 No_date    28:11    41.31  n/a      .000
        [L/S/n=  167./ .100/.013]
        {Vmax= 1.089:Dmax=  .665}
        [Din= 1.05:Dused= 1.05}
R0010:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:B6               3.29      .376 No_date    28:00    41.19 .637      .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B6               3.29      .376 No_date    28:00    41.19  n/a      .000
      Major System   /       1.0 02:B6-MJ             .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:B6-MN            3.29      .064 No_date    27:36    41.22  n/a      .000
        {MjSysSto=.3813E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:EX-LAND         32.50     3.367 No_date    28:02    41.86 .647      .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0010:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:EX-LAND         32.50     3.367 No_date    28:02    41.86  n/a      .000
      Major System   /       1.0 02:EX-LAND-MJ        .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:EX-LAND-MN      32.50     2.275 No_date    27:55    41.99  n/a      .000
        {MjSysSto=.5949E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:B7R-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:EX-LAND-MJ        .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:B5-MJ             .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:B6-MJ             .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:B6-MN            3.29      .064 No_date    27:36    41.22  n/a      .000
                      +      1.0 02:A8-MJ-B6          .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=      1.0 01:B6-B7ExMJ        3.29      .064 No_date    27:36    41.22  n/a      .000
R0010:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B6-B7ExMJ        3.29      .064 No_date    27:36    41.22  n/a      .000
      Major System   /       1.0 02:B6R-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:B6R-MN           3.29      .064 No_date    27:36    41.22  n/a      .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH105-B6       106.90     3.008 No_date    28:05    41.72  n/a      .000
      [RDT= 1.00] out<-      1.0 01:105-106A       106.90     3.006 No_date    28:12    41.72  n/a      .000
        [L/S/n=  208./ .100/.013]
        {Vmax= 1.597:Dmax= 1.249}
        [Din= 1.80:Dused= 1.80}
R0010:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:360-106A         7.19      .628 No_date    28:11    41.31  n/a      .000
                      +      1.0 02:105-106A       106.90     3.006 No_date    28:12    41.72  n/a      .000
                      +      1.0 02:B6R-MN           3.29      .064 No_date    27:36    41.22  n/a      .000
                      +      1.0 02:B6R-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=      1.0 01:MH106A         117.38     3.698 No_date    28:11    41.68  n/a      .000
R0010:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH106A         117.38     3.698 No_date    28:11    41.68  n/a      .000
        fname :MH106A.0010
        remark:Total Flows at MH106A
R0010:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH106A         117.38     3.698 No_date    28:11    41.68  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:106A-106       117.38     3.659 No_date    28:06    41.68  n/a      .000
        [L/S/n=  190./ .100/.013]
        {Vmax= 1.635:Dmax= 1.487}
        [Din= 1.80:Dused= 1.81}
R0010:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A9               2.44      .365 No_date    28:00    51.11 .790      .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A9               2.44      .365 No_date    28:00    51.11  n/a      .000
      Major System   /       1.0 02:A9-MJ             .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:A9-MN            2.44      .365 No_date    28:00    51.11  n/a      .000
R0010:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:106A-106       117.38     3.659 No_date    28:06    41.68  n/a      .000
                      +      1.0 02:A9-MN            2.44      .365 No_date    28:00    51.11  n/a      .000
                   SUM=      1.0 01:MH106          119.82     3.992 No_date    28:02    41.87  n/a      .000
R0010:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH106          119.82     3.992 No_date    28:02    41.87  n/a      .000
        fname :MH106.0010
        remark:Total Flows at MH106
R0010:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH106          119.82     3.992 No_date    28:02    41.87  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:106-107        119.82     3.962 No_date    28:03    41.87  n/a      .000
        [L/S/n=  123./ .100/.013]
        {Vmax= 1.666:Dmax= 1.530}
        [Din= 1.80:Dused= 1.86}
R0010:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A10              4.14      .416 No_date    28:01    38.46 .595      .000
        [XIMP=.35:TIMP=.47]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A10              4.14      .416 No_date    28:01    38.46  n/a      .000
      Major System   /       1.0 02:A10-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:A10-MN           4.14      .310 No_date    27:55    38.48  n/a      .000
        {MjSysSto=.4172E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A11             10.61     1.251 No_date    28:01    45.36 .701      .000
        [XIMP=.53:TIMP=.62]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A11             10.61     1.251 No_date    28:01    45.36  n/a      .000
      Major System   /       1.0 02:A11-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:A11-MN          10.61      .993 No_date    27:56    45.38  n/a      .000
        {MjSysSto=.1016E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:106-107        119.82     3.962 No_date    28:03    41.87  n/a      .000
                      +      1.0 02:A10-MN           4.14      .310 No_date    27:55    38.48  n/a      .000
                      +      1.0 02:A11-MN          10.61      .993 No_date    27:56    45.38  n/a      .000
                   SUM=      1.0 01:MH107          134.57     5.265 No_date    28:03    42.04  n/a      .000
R0010:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH107          134.57     5.265 No_date    28:03    42.04  n/a      .000
        fname :MH107.0010
        remark:Total Flows at MH107
R0010:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH107          134.57     5.265 No_date    28:03    42.04  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:107-119        134.57     5.251 No_date    28:05    42.04  n/a      .000
        [L/S/n=  114./ .120/.013]
        {Vmax= 1.912:Dmax= 1.640}
        [Din= 1.80:Dused= 2.00}
R0010:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:107-119        134.57     5.251 No_date    28:05    42.04  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:119-108        134.57     5.248 No_date    28:06    42.04  n/a      .000
        [L/S/n=   66./ .120/.013]
        {Vmax= 1.911:Dmax= 1.639}
        [Din= 1.80:Dused= 2.00}
R0010:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A12             12.29     1.385 No_date    28:01    41.19 .637      .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A12             12.29     1.385 No_date    28:01    41.19  n/a      .000
      Major System   /       1.0 02:A12-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:A12-MN          12.29     1.029 No_date    27:54    41.27  n/a      .000
        {MjSysSto=.1401E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A13              2.59      .368 No_date    28:01    51.11 .790      .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A13              2.59      .368 No_date    28:01    51.11  n/a      .000
      Major System   /       1.0 02:A13-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:A13-MN           2.59      .368 No_date    28:01    51.11  n/a      .000
R0010:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:Pond-Block       2.94      .309 No_date    28:00    38.90 .601      .000
        [XIMP=.41:TIMP=.41]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:119-108        134.57     5.248 No_date    28:06    42.04  n/a      .000
                      +      1.0 02:A13-MN           2.59      .368 No_date    28:01    51.11  n/a      .000
                      +      1.0 02:A12-MN          12.29     1.029 No_date    27:54    41.27  n/a      .000
                   SUM=      1.0 01:MH108          149.45     6.598 No_date    28:04    42.14  n/a      .000
R0010:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH108          149.45     6.598 No_date    28:04    42.14  n/a      .000
        fname :MH108.0010
        remark:Total Flows at MH108
R0010:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH108          149.45     6.598 No_date    28:04    42.14  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:108-116        149.45     6.590 No_date    28:05    42.14  n/a      .000
        [L/S/n=   77./ .130/.013]
        {Vmax= 2.085:Dmax= 1.759}
        [Din= 1.80:Dused= 2.14}
R0010:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:108-116        149.45     6.590 No_date    28:05    42.14  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:116-corrig     149.45     6.577 No_date    28:06    42.14  n/a      .000
        [L/S/n=   80./ .130/.013]
        {Vmax= 2.084:Dmax= 1.758}
        [Din= 1.80:Dused= 2.14}
R0010:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:116-corrig     149.45     6.577 No_date    28:06    42.14  n/a      .000
                      +      1.0 02:Pond-Block       2.94      .309 No_date    28:00    38.90  n/a      .000
                   SUM=      1.0 01:Corrigan       152.39     6.779 No_date    28:05    42.08  n/a      .000
R0010:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:Corrigan       152.39     6.779 No_date    28:05    42.08  n/a      .000
        fname :Corrigan.0010
        remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0010:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:Corrigan       152.39     6.779 No_date    28:05    42.08  n/a      .000
                  out <=     1.0 01:Co-P           152.39     6.100 No_date    28:15    42.07  n/a      .000
             overflow <=     1.0 03:Co-P-OVF          .00      .000 No_date     0:00      .00  n/a      .000
       {MxStoUsed=.1015E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:Co-P-OVF          .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:Co-P           152.39     6.100 No_date    28:15    42.07  n/a      .000
                      +      1.0 02:N_TO         54837.78    85.046 No_date    37:15    23.06  n/a      .000
                      +      1.0 02:MH105-JR        28.70     7.335 No_date    28:05    41.72  n/a      .000
                      +      1.0 02:A8-MJ-JR          .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:A9-MJ             .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:A10-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:A11-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:A12-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                      +      1.0 02:A13-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=      1.0 01:corrig       55018.86    85.401 No_date    37:15    23.12  n/a      .000
R0010:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:corrig       55018.86    85.401 No_date    37:15    23.12  n/a      .000
        fname :corrig.0010
        remark:Total Flows at Corrigan Pond
#***************************************************************************
#     Corrigan Pond 1
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
#***************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0010:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:corrig       55018.86    85.401 No_date    37:15    23.12  n/a      .000
      [RDT= 1.00] out<-      1.0 01:N_MI         55018.86    85.374 No_date    37:18    23.12  n/a      .000
        [L/S/n=  580./ .445/.045]
        {Vmax= 1.783:Dmax= 1.624}
#***************************************************************************
#     Catchment MILLS
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#***************************************************************************
R0010:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:MILLS          175.99    12.212 No_date    28:07    36.76 .568      .000
        [XIMP=.38:TIMP=.38]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
#***************************************************************************
#     Chapman Mills SWM Pond
```

```
#    - Rating curve obtained from CCL hydraulic modeling
#**************************************************************************
R0010:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:MILLS          175.99   12.212 No_date   28:07   36.76  n/a     .000
                  out <=   1.0 01:MILL_P         175.99    4.030 No_date   28:43   36.76  n/a     .000
             overflow <=   1.0 03:MIL-OV            .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2299E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_MI         55018.86   85.374 No_date   37:18   23.12  n/a     .000
                      +    1.0 02:MIL-OV            .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:MILL_P         175.99    4.030 No_date   28:43   36.76  n/a     .000
                   SUM=    1.0 01:SN_MI        55194.85   85.786 No_date   37:17   23.16  n/a     .000
R0010:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_MI        55194.85   85.786 No_date   37:17   23.16  n/a     .000
      fname :SN_MI.0010
      remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0010:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_MI        55194.85   85.786 No_date   37:17   23.16  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_DE         55194.85   85.515 No_date   37:21   23.16  n/a     .000
      [L/S/n= 1962./ .223/.045]
      {Vmax= 1.390:Dmax= 2.066}
#**************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#**************************************************************************
R0010:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:DESIRE          23.78    1.694 No_date   28:03   32.93 .509     .000
      [XIMP=.25:TIMP=.25]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
#**************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#**************************************************************************
R0010:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:JOCKVA         225.13   17.670 No_date   28:08   41.86 .647     .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0010:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:EX-LAND-MN      32.50    2.275 No_date   27:55   41.99  n/a     .000
                      +    1.0 02:JOCKVA         225.13   17.670 No_date   28:08   41.86  n/a     .000
                      +    1.0 02:B2-MI             .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:B3-MI             .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:JOCKVA-TO      257.63   19.945 No_date   28:08   41.88  n/a     .000
R0010:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:JOCKVA-TO      257.63   19.945 No_date   28:08   41.88  n/a     .000
      fname :JOCKVA-TO.0010
      remark:Total Flows at KB first pond
#**************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#**************************************************************************
R0010:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO      257.63   19.945 No_date   28:08   41.88  n/a     .000
                  out <=   1.0 01:JOCK_P         257.63    6.542 No_date   28:42   41.88  n/a     .000
             overflow <=   1.0 03:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4673E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_DE         55194.85   85.515 No_date   37:21   23.16  n/a     .000
                      +    1.0 02:DESIRE          23.78    1.694 No_date   28:03   32.93  n/a     .000
                      +    1.0 02:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:JOCK_P         257.63    6.542 No_date   28:42   41.88  n/a     .000
                   SUM=    1.0 01:SN_DE        55476.26   86.165 No_date   37:21   23.26  n/a     .000
R0010:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_DE        55476.26   86.165 No_date   37:21   23.26  n/a     .000
      fname :SN_DE.0010
      remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0010:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_DE        55476.26   86.165 No_date   37:21   23.26  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N1           55476.26   86.183 No_date   37:18   23.26  n/a     .000
      [L/S/n=  563./ .967/.045]
      {Vmax= 1.785:Dmax= 1.035}
#**************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#**************************************************************************
R0010:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-2            102.94    2.957 No_date   28:20   23.57 .364     .000
      [CN= 72.0: N= 3.00: Tp=  .40]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0010:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N1           55476.26   86.183 No_date   37:18   23.26  n/a     .000
                      +    1.0 02:S-2            102.94    2.957 No_date   28:20   23.57  n/a     .000
                   SUM=    1.0 01:SN_N1        55579.20   86.348 No_date   37:18   23.26  n/a     .000
R0010:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_N1        55579.20   86.348 No_date   37:18   23.26  n/a     .000
      fname :SN_N1.0010
      remark:Total Flows at Rideau River
##########################################################################
  ** END OF RUN :   24
*******************************************************************************************
 RUN#:COMMAND#
R0025:C00001-------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0025 ]
#**************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date        : 04-03-2021
#  Modeller    : [M M]
#  Company     : JFSAinc.
#  License #   :  2549237
#**************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 %(as per St
# -----------------------------------------------------------------------
R0025:C00002-------------------------------------------------------------------------------
     READ STORM
      Filename = storm 001
      Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
      [SDT=10.00:SDUR= 24.00:PTOT=  74.39]
R0025:C00003-------------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR= 40.00:PTOT=  74.39]
R0025:C00004-------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Based onvarious calibration exercises in Onta
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
  JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
  JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
  .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0025:C00005-------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax=106.76: APIavg= 65.09: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:JR_HW         3680.00   15.500 No_date   36:57   25.80 .347     .000
      [CN= 64.0: N= 3.00: Tp= 7.13]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_13          971.00    5.778 No_date   32:34   24.02 .323     .000
      [CN= 61.0: N= 3.00: Tp= 3.76]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:JR_GWM        3074.00    7.521 No_date   39:59   20.65 .278     .000
      [CN= 55.0: N= 3.00: Tp=11.33]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:JR_ASH        1781.00   14.166 No_date   32:40   31.50 .423     .000
      [CN= 72.0: N= 3.00: Tp= 3.91]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_11          500.00    7.521 No_date   29:22   27.01 .363     .000
      [CN= 66.0: N= 3.00: Tp= 1.24]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:NN_CK         1917.00   10.351 No_date   34:27   27.01 .363     .000
      [CN= 66.0: N= 3.00: Tp= 5.29]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_10         5666.00   27.457 No_date   37:54   31.50 .423     .000
      [CN= 72.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:KG_CK         8376.00   26.276 No_date   39:59   27.01 .363     .000
      [CN= 66.0: N= 3.00: Tp=11.66]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_9          1132.00   11.752 No_date   30:54   30.18 .406     .000
      [CN= 70.0: N= 3.00: Tp= 2.51]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:NC_CK         4464.00   13.075 No_date   39:59   24.61 .331     .000
      [CN= 62.0: N= 3.00: Tp=11.32]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_8           131.00    2.266 No_date   28:57   25.20 .339     .000
      [CN= 63.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:HB_DR         3854.00   15.333 No_date   38:34   27.01 .363     .000
      [CN= 66.0: N= 3.00: Tp= 8.42]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_7          3197.00   11.663 No_date   36:24   21.75 .292     .000
      [CN= 57.0: N= 3.00: Tp= 6.65]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_6           165.00    1.076 No_date   33:03   27.63 .371     .000
      [CN= 67.0: N= 3.00: Tp= 4.18]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:VG_DR         1332.00    7.882 No_date   35:14   31.50 .423     .000
      [CN= 72.0: N= 3.00: Tp= 5.95]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_5           224.00    6.882 No_date   28:45   35.66 .479     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:FL_CK         4945.00   37.664 No_date   33:18   32.85 .442     .000
      [CN= 74.0: N= 3.00: Tp= 4.45]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_5A2          20.00     .798 No_date   28:35   39.36 .529     .000
      [CN= 81.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_5A1        1412.00    7.480 No_date   37:50   34.24 .460     .000
      [CN= 75.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_4           585.00   10.942 No_date   29:56   39.36 .529     .000
      [CN= 81.0: N= 3.00: Tp= 1.75]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:LM_CK         1021.00   14.476 No_date   30:46   38.60 .519     .000
      [CN= 80.0: N= 3.00: Tp= 2.46]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_2           177.00    5.438 No_date   28:45   35.66 .479     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SM_DR         1122.00   13.229 No_date   31:45   39.36 .529     .000
      [CN= 81.0: N= 3.00: Tp= 3.25]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:MO_DR         2737.00   29.508 No_date   31:30   34.94 .470     .000
      [CN= 76.0: N= 3.00: Tp= 3.03]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:JR_HW         3680.00   15.500 No_date   36:56   25.80  n/a     .000
                      +    1.0 02:SW_13          971.00    5.778 No_date   32:34   24.02  n/a     .000
                   SUM=    1.0 01:S_N13         4651.00   19.777 No_date   35:26   25.42  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N13         4651.00   19.777 No_date   35:26   25.42  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N13A          4651.00   15.935 No_date   39:17   25.42  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .548:Dmax= 3.659}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N13A          4651.00   15.935 No_date   39:17   25.42  n/a     .000
                      +    1.0 02:JR_GWM        3074.00    7.521 No_date   39:59   20.65  n/a     .000
                   SUM=    1.0 01:SN13A         7725.00   23.402 No_date   39:59   23.52  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:SN13A         7725.00   23.402 No_date   39:59   23.52  n/a     .000
                  out <=   1.0 01:RES_GM        7725.00    3.678 No_date   60:27   23.52  n/a     .000
```

```
      {MxStoUsed=.1192E+03  m3}
#
R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:RES_GM       7725.00     3.678 No_date    60:27    23.52   n/a      .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:RES_GM       7725.00     3.678 No_date    60:27    23.52   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N12          7725.00     3.675 No_date    63:05    23.52   n/a      .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .552:Dmax= 1.524}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0025:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N12          7725.00     3.675 No_date    63:05    23.52   n/a      .000
                     +     1.0 02:JR_ASH       1781.00    14.166 No_date    32:40    31.50   n/a      .000
                  SUM=     1.0 01:S_N12        9506.00    16.182 No_date    32:43    25.02   n/a      .000
R0025:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N12        9506.00    16.182 No_date    32:43    25.02   n/a      .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0025:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N12        9506.00    16.182 No_date    32:43    25.02   n/a      .000
     [RDT= 1.00] out<-     1.0 01:Dum11        9506.00    16.007 No_date    33:02    25.02   n/a      .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .721:Dmax= 2.847}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0025:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:Dum11        9506.00    16.007 No_date    33:02    25.02   n/a      .000
                     +     1.0 02:SW_11         500.00     7.521 No_date    29:22    27.01   n/a      .000
                     +     1.0 02:NN_CK        1917.00    10.351 No_date    34:27    27.01   n/a      .000
                  SUM=     1.0 01:S_N11       11923.00    27.908 No_date    33:04    25.42   n/a      .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0025:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N11       11923.00    27.908 No_date    33:04    25.42   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N10         11923.00    18.039 No_date    40:01    25.42   n/a      .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .464:Dmax= 1.329}
#
# Addition of Subwatershed 10 to Node 10
#
R0025:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N10         11923.00    18.039 No_date    40:01    25.42   n/a      .000
                     +     1.0 02:SW_10        5666.00    27.457 No_date    37:54    31.50   n/a      .000
                  SUM=     1.0 01:S_N10       17589.00    45.026 No_date    38:35    27.38   n/a      .000
R0025:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N10       17589.00    45.026 No_date    38:35    27.38   n/a      .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0025:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S_N10       17589.00    45.026 No_date    38:35    27.38   n/a      .000
                     +     1.0 02:KG_CK        8376.00    26.276 No_date    39:59    27.01   n/a      .000
                  SUM=     1.0 01:S_N10A      25965.00    70.812 No_date    39:59    27.26   n/a      .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0025:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N10A      25965.00    70.812 No_date    39:59    27.26   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N9          25965.00    69.032 No_date    39:59    27.26   n/a      .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .718:Dmax= 1.889}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0025:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N9          25965.00    69.032 No_date    39:59    27.26   n/a      .000
                     +     1.0 02:SW_9         1132.00    11.752 No_date    30:54    30.18   n/a      .000
                     +     1.0 02:NC_CK        4464.00    13.075 No_date    39:59    24.61   n/a      .000
                  SUM=     1.0 01:S_N9        31561.00    84.684 No_date    39:59    26.99   n/a      .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0025:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N9        31561.00    84.684 No_date    39:59    26.99   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N8          31561.00    79.245 No_date    39:59    26.99   n/a      .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .363:Dmax= 1.743}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0025:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N8          31561.00    79.245 No_date    39:59    26.99   n/a      .000
                     +     1.0 02:SW_8          131.00     2.266 No_date    28:57    25.20   n/a      .000
                     +     1.0 02:HB_DR        3854.00    15.333 No_date    38:34    27.01   n/a      .000
                  SUM=     1.0 01:S_N8        35546.00    94.597 No_date    39:59    26.99   n/a      .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0025:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N8        35546.00    94.597 No_date    39:59    26.99   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N7          35546.00    80.337 No_date    45:08    26.98   n/a      .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .226:Dmax= 2.161}
#
# Addition of Subwatershed 7 to Node 7
#
R0025:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N7          35546.00    80.337 No_date    45:08    26.98   n/a      .000
                     +     1.0 02:SW_7         3197.00    11.663 No_date    36:24    21.75   n/a      .000
                  SUM=     1.0 01:S_N7        38743.00    86.331 No_date    44:08    26.55   n/a      .000
R0025:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N7        38743.00    86.331 No_date    44:08    26.55   n/a      .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S_N7        38743.00    86.331 No_date    44:08    26.55   n/a      .000
                out <=     1.0 01:RES_RF      38743.00    42.032 No_date    60:05    26.55   n/a      .000
     {MxStoUsed=.3671E+03  m3}
R0025:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:RES_RF      38743.00    42.032 No_date    60:05    26.55   n/a      .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0025:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:RES_RF      38743.00    42.032 No_date    60:05    26.55   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N6          38743.00    41.826 No_date    61:26    26.55   n/a      .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .514:Dmax= 1.120}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0025:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N6          38743.00    41.826 No_date    61:26    26.55   n/a      .000
                     +     1.0 02:SW_6          165.00     1.076 No_date    33:03    27.63   n/a      .000
                     +     1.0 02:VG_DR        1332.00     7.882 No_date    35:14    31.50   n/a      .000
                  SUM=     1.0 01:S_N6        40240.01    41.832 No_date    61:20    26.72   n/a      .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0025:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N6        40240.01    41.832 No_date    61:20    26.72   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N5          40240.01    41.717 No_date    62:14    26.72   n/a      .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .444:Dmax= 1.222}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0025:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N5          40240.01    41.717 No_date    62:14    26.72   n/a      .000
                     +     1.0 02:SW_5          224.00     6.882 No_date    28:45    35.66   n/a      .000
                     +     1.0 02:FL_CK        4945.00    37.664 No_date    33:18    32.85   n/a      .000
                  SUM=     1.0 01:S_N5        45409.01    62.634 No_date    34:27    27.43   n/a      .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0025:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N5        45409.01    62.634 No_date    34:27    27.43   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N5A         45409.01    62.487 No_date    34:43    27.43   n/a      .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .511:Dmax= 1.222}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0025:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N5A         45409.01    62.487 No_date    34:43    27.43   n/a      .000
                     +     1.0 02:SW_5A2         20.00      .798 No_date    28:35    39.36   n/a      .000
                     +     1.0 02:SW_5A1       1412.00     7.480 No_date    37:50    34.24   n/a      .000
                  SUM=     1.0 01:S_N5A       46841.01    69.334 No_date    35:01    27.64   n/a      .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0025:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N5A       46841.01    69.334 No_date    35:01    27.64   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N4          46841.01    66.496 No_date    36:27    27.64   n/a      .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .840:Dmax= 3.530}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0025:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N4          46841.01    66.496 No_date    36:27    27.64   n/a      .000
                     +     1.0 02:SW_4          585.00    10.942 No_date    29:56    39.36   n/a      .000
                     +     1.0 02:LM_CK        1021.00    14.476 No_date    30:46    38.60   n/a      .000
                  SUM=     1.0 01:S_N4        48447.00    73.819 No_date    35:41    28.02   n/a      .000
R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N4        48447.00    73.819 No_date    35:41    28.02   n/a      .000
      fname :S_N4.0025
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N4        48447.00    73.819 No_date    35:41    28.02   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N2          48447.00    73.485 No_date    35:42    28.02   n/a      .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .874:Dmax= 3.570}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N2          48447.00    73.485 No_date    35:42    28.02   n/a      .000
                     +     1.0 02:SW_2          177.00     5.438 No_date    28:45    35.66   n/a      .000
                     +     1.0 02:SM_DR        1122.00    13.229 No_date    31:45    39.36   n/a      .000
                     +     1.0 02:MO_DR        2737.00    29.508 No_date    31:30    34.94   n/a      .000
                  SUM=     1.0 01:S_N2        52483.00   106.109 No_date    33:07    28.64   n/a      .000
R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N2        52483.00   106.109 No_date    33:07    28.64   n/a      .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#***************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:S_N2        52483.00   106.109 No_date    33:07    28.64   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N_416       52483.00   103.234 No_date    34:03    28.64   n/a      .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .754:Dmax= 3.305}
#***************************************************************************
#    Catchment SW-1a
#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#     - Undeveloped agricultural land
#***************************************************************************
R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_1a         536.42     5.154 No_date    31:16    30.13 .405      .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-Okeefe     44.93     6.507 No_date    28:03    57.38 .771      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_416       52483.00   103.234 No_date    34:03    28.64   n/a      .000
                     +     1.0 02:SW_1a         536.42     5.154 No_date    31:16    30.13   n/a      .000
                     +     1.0 02:S-1-Okeefe     44.93     6.507 No_date    28:03    57.38   n/a      .000
                  SUM=     1.0 01:SN_416      53064.36   107.198 No_date    33:26    28.68   n/a      .000
R0025:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_416      53064.36   107.198 No_date    33:26    28.68   n/a      .000
      fname :SN_416.0025
      remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0025:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:SN_416      53064.36   107.198 No_date    33:26    28.68   n/a      .000
     [RDT= 1.00] out<-     1.0 01:N_OK        53064.36   107.111 No_date    33:27    28.68   n/a      .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.568:Dmax= 2.810}
#***************************************************************************
#    Catchment OKEEFE
#     - To O'Keefe drain (north of the Jock)
#     - Developed with assumed 43% imp.
#     - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#     - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#***************************************************************************
R0025:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-1            63.72      .937 No_date    28:58    22.21 .299      .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
R0025:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:O-1            63.72      .937 No_date    28:58    22.21   n/a      .000
     [RDT= 1.00] out<-     1.0 01:O-1R           63.72      .877 No_date    29:15    22.21   n/a      .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .829:Dmax=  .398}
R0025:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-2            28.61      .330 No_date    29:13    20.55 .276      .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
R0025:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-4            46.94      .426 No_date    29:00    15.62 .210      .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime=  12.00]
R0025:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:O-1R           63.72      .877 No_date    29:15    22.21   n/a      .000
                     +     1.0 02:O-2            28.61      .330 No_date    29:13    20.55   n/a      .000
                     +     1.0 02:O-4            46.94      .426 No_date    29:00    15.62   n/a      .000
                  SUM=     1.0 01:OKF-N         139.27     1.623 No_date    29:11    19.65   n/a      .000
R0025:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:OKF-N         139.27     1.623 No_date    29:11    19.65   n/a      .000
     [RDT= 1.00] out<-     1.0 01:OKF-NR        139.27     1.620 No_date    29:14    19.65   n/a      .000
      [L/S/n=  210./ .810/.043]
      {Vmax=  .998:Dmax=  .685}
R0025:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-6            16.46      .143 No_date    28:45    13.49 .181      .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime=  12.00]
R0025:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:O-3            39.67     1.013 No_date    28:23    24.45 .329      .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious      area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
      [Impervious    area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0025:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:O-5            60.63     2.500 No_date    28:10    28.05 .377      .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious      area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
      [Impervious    area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0025:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:OKF-NR        139.27     1.620 No_date    29:14    19.65   n/a      .000
                     +     1.0 02:O-3            39.67     1.013 No_date    28:23    24.45   n/a      .000
                     +     1.0 02:O-5            60.63     2.500 No_date    28:10    28.05   n/a      .000
                     +     1.0 02:O-6            16.46      .143 No_date    28:45    13.49   n/a      .000
                  SUM=     1.0 01:PT1           256.03     4.071 No_date    28:22    21.98   n/a      .000
R0025:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-7             5.28      .078 No_date    28:37    18.08 .243      .000
      [CN= 54.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
      [InterEventTime=  12.00]
R0025:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:PT1           256.03     4.071 No_date    28:22    21.98   n/a      .000
                     +     1.0 02:O-7             5.28      .078 No_date    28:37    18.08   n/a      .000
                  SUM=     1.0 01:FF            261.31     4.141 No_date    28:22    21.91   n/a      .000
R0025:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->    1.0 02:FF            261.31     4.141 No_date    28:22    21.91   n/a      .000
     [RDT= 1.00] out<-     1.0 01:DRAIN1        261.31     4.014 No_date    28:28    21.91   n/a      .000
      [L/S/n=  302./1.000/.043]
      {Vmax=  .793:Dmax=  .719}
R0025:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D1              1.17      .078 No_date    28:12    37.38 .502      .000
      [CN= 84.0: N= 3.00: Tp=  .28]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0025:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A1              2.50      .464 No_date    28:01    58.43 .785      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
      [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
```

```
R0025:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A1              2.50      .464 No_date   28:01    58.43  n/a      .000
                  out <=     1.0 01:A1-STR          2.50      .117 No_date   28:22    58.43  n/a      .000
             overflow <=     1.0 03:A1-OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.6660E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-2             .59      .091 No_date   28:00    45.54 .612      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-2             .59      .091 No_date   28:00    45.54  n/a      .000
                  out <=     1.0 01:ST2STR           .59      .052 No_date   28:07    45.54  n/a      .000
             overflow <=     1.0 03:ST2OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.2899E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-8            60.55     1.147 No_date   29:04    28.63 .385      .000
       [CN= 69.0:  N= 3.00:  Tp= 1.00]
       [IaREC= 4.00:  SMIN= 44.82:  SMAX=298.82:  SK= .010]
       [InterEventTime=  12.00]
R0025:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:O-8            60.55     1.147 No_date   29:04    28.63  n/a      .000
      [RDT= 1.00] out<-      1.0 01:O8PIPE         60.55     1.141 No_date   29:08    28.63  n/a      .000
       [L/S/n=  335./  .100/.013]
       {Vmax= 1.178:Dmax=  .540}
       {HGTH= 1.20:WDTH= 1.80}
R0025:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN1        261.31     4.014 No_date   28:28    21.91  n/a      .000
                        +    1.0 02:D1              1.17      .078 No_date   28:12    37.38  n/a      .000
                        +    1.0 02:A1-STR          2.50      .117 No_date   28:22    58.43  n/a      .000
                        +    1.0 02:A1-OVF           .00      .000 No_date    0:00      .00  n/a      .000
                        +    1.0 02:ST2STR           .59      .052 No_date   28:07    45.54  n/a      .000
                        +    1.0 02:ST2OVF           .00      .000 No_date    0:00      .00  n/a      .000
                        +    1.0 02:O8PIPE         60.55     1.141 No_date   29:08    28.63  n/a      .000
                     SUM=    1.0 01:ST2-IN        326.12     5.017 No_date   28:36    23.53  n/a      .000
R0025:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A7              3.51      .635 No_date   28:01    58.43 .785      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A7              3.51      .635 No_date   28:01    58.43  n/a      .000
                  out <=     1.0 01:A7-STR          3.51      .164 No_date   28:23    58.43  n/a      .000
             overflow <=     1.0 03:A7-OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.9358E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-3             .71      .108 No_date   28:00    45.54 .612      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-3             .71      .108 No_date   28:00    45.54  n/a      .000
                  out <=     1.0 01:ST3STR           .71      .063 No_date   28:08    45.54  n/a      .000
             overflow <=     1.0 03:ST3OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.3355E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:ST2-IN        326.12     5.017 No_date   28:36    23.53  n/a      .000
                        +    1.0 02:A7-STR          3.51      .164 No_date   28:23    58.43  n/a      .000
                        +    1.0 02:A7-OVF           .00      .000 No_date    0:00      .00  n/a      .000
                        +    1.0 02:ST3STR           .71      .063 No_date   28:08    45.54  n/a      .000
                        +    1.0 02:ST3OVF           .00      .000 No_date    0:00      .00  n/a      .000
                     SUM=    1.0 01:PT2ST3        330.34     5.204 No_date   28:28    23.95  n/a      .000
R0025:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:PT2ST3        330.34     5.204 No_date   28:28    23.95  n/a      .000
      [RDT= 1.00] out<-      1.0 01:DRAIN2        330.34     4.806 No_date   29:00    23.95  n/a      .000
       [L/S/n=  592./  .230/.043]
       {Vmax=  .581:Dmax= 1.088}
R0025:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D2              2.28      .062 No_date   29:03    37.38 .502      .000
       [CN= 84.0:  N= 3.00:  Tp=  .99]
       [IaREC= 4.00:  SMIN= 21.09:  SMAX=140.62:  SK= .010]
       [InterEventTime=  12.00]
R0025:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A17            12.04     1.933 No_date   28:03    58.43 .785      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A17            12.04     1.933 No_date   28:03    58.43  n/a      .000
                  out <=     1.0 01:A17STR         12.04      .553 No_date   28:29    58.43  n/a      .000
             overflow <=     1.0 03:A17OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.3155E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-4             .35      .055 No_date   28:00    45.54 .612      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-4             .35      .055 No_date   28:00    45.54  n/a      .000
                  out <=     1.0 01:ST4STR           .35      .031 No_date   28:07    45.54  n/a      .000
             overflow <=     1.0 03:ST4OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.2092E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:A18             5.30      .922 No_date   28:02    58.43 .785      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:A18             5.30      .922 No_date   28:02    58.43  n/a      .000
                  out <=     1.0 01:A18STR          5.30      .247 No_date   28:25    58.43  n/a      .000
             overflow <=     1.0 03:A18OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.1408E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN2        330.34     4.806 No_date   29:00    23.95  n/a      .000
                        +    1.0 02:D2              2.28      .062 No_date   29:03    37.38  n/a      .000
                        +    1.0 02:A17STR         12.04      .553 No_date   28:29    58.43  n/a      .000
                        +    1.0 02:A17OVF           .00      .000 No_date    0:00      .00  n/a      .000
                        +    1.0 02:ST4STR           .35      .031 No_date   28:07    45.54  n/a      .000
                        +    1.0 02:ST4OVF           .00      .000 No_date    0:00      .00  n/a      .000
                        +    1.0 02:A18STR          5.30      .247 No_date   28:25    58.43  n/a      .000
                        +    1.0 02:A18OVF           .00      .000 No_date    0:00      .00  n/a      .000
                     SUM=    1.0 01:PT3ST4        350.31     5.557 No_date   28:56    25.77  n/a      .000
R0025:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:PT3ST4        350.31     5.557 No_date   28:56    25.77  n/a      .000
      [RDT= 1.00] out<-      1.0 01:DRAIN3        350.31     5.293 No_date   29:13    25.77  n/a      .000
       [L/S/n=  525./  .230/.043]
       {Vmax=  .603:Dmax= 1.137}
R0025:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D3              2.51      .095 No_date   28:43    40.67 .547      .000
       [CN= 86.0:  N= 3.00:  Tp=  .73]
       [IaREC= 4.00:  SMIN= 17.43:  SMAX=116.21:  SK= .010]
       [InterEventTime=  12.00]
R0025:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:C1              3.41      .618 No_date   28:01    58.43 .785      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:C1              3.41      .618 No_date   28:01    58.43  n/a      .000
                  out <=     1.0 01:C1-STR          3.41      .159 No_date   28:23    58.43  n/a      .000
             overflow <=     1.0 03:C1-OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.9080E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-5             .45      .071 No_date   28:00    45.54 .612      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-5             .45      .071 No_date   28:00    45.54  n/a      .000
                  out <=     1.0 01:ST5STR           .45      .040 No_date   28:07    45.54  n/a      .000
             overflow <=     1.0 03:ST5OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.2455E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN3        350.31     5.293 No_date   29:13    25.77  n/a      .000
                        +    1.0 02:D3              2.51      .095 No_date   28:43    40.67  n/a      .000
                        +    1.0 02:C1-STR          3.41      .159 No_date   28:23    58.43  n/a      .000
                        +    1.0 02:C1-OVF           .00      .000 No_date    0:00      .00  n/a      .000
                        +    1.0 02:ST5STR           .45      .040 No_date   28:07    45.54  n/a      .000
                        +    1.0 02:ST5OVF           .00      .000 No_date    0:00      .00  n/a      .000
                     SUM=    1.0 01:ST5-E         356.68     5.480 No_date   29:11    26.21  n/a      .000
R0025:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:STRAND          7.59      .918 No_date   28:10    57.02 .767      .000
       [XIMP=.64:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:STRAND          7.59      .918 No_date   28:10    57.02  n/a      .000
                  out <=     1.0 01:S-POND          7.59      .109 No_date   29:19    57.02  n/a      .000
             overflow <=     1.0 03:S-OVF            .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.2915E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:ST5-E         356.68     5.480 No_date   29:11    26.21  n/a      .000
                        +    1.0 02:S-POND          7.59      .109 No_date   29:19    57.02  n/a      .000
                        +    1.0 02:S-OVF            .00      .000 No_date    0:00      .00  n/a      .000
                     SUM=    1.0 01:SSAOUT        364.27     5.589 No_date   29:11    26.85  n/a      .000
R0025:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SSAOUT        364.27     5.589 No_date   29:11    26.85  n/a      .000
       fname :SSAOUT.0025
       remark:SSAOUT
R0025:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:Area-A         66.75     7.879 No_date   28:09    56.06 .754      .000
       [XIMP=.64:TIMP=.80]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:Area-A         66.75     7.879 No_date   28:09    56.06  n/a      .000
       fname :Area-A.0025
       remark:SMWF-A Inflow
R0025:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:Area-A         66.75     7.879 No_date   28:09    56.06  n/a      .000
                  out <=     1.0 01:SWMF-A         66.75      .788 No_date   29:28    56.05  n/a      .000
             overflow <=     1.0 03:SWMAOV           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.2643E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SWMF-A         66.75      .788 No_date   29:28    56.05  n/a      .000
       fname :SWMF-A.0025
       remark:SMWF-A Outflow
R0025:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:SSAOUT        364.27     5.589 No_date   29:11    26.85  n/a      .000
                        +    1.0 02:SWMF-A         66.75      .788 No_date   29:28    56.05  n/a      .000
                        +    1.0 02:SWMAOV           .00      .000 No_date    0:00      .00  n/a      .000
                     SUM=    1.0 01:PT4ST5        431.02     6.356 No_date   29:13    31.37  n/a      .000
R0025:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:C6              1.87      .354 No_date   28:01    58.43 .785      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:C6              1.87      .354 No_date   28:01    58.43  n/a      .000
                  out <=     1.0 01:C6-STR          1.87      .089 No_date   28:21    58.43  n/a      .000
             overflow <=     1.0 03:C6-OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.5013E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:C7              1.62      .309 No_date   28:01    58.43 .785      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:C7              1.62      .309 No_date   28:01    58.43  n/a      .000
                  out <=     1.0 01:C7-STR          1.62      .077 No_date   28:21    58.43  n/a      .000
             overflow <=     1.0 03:C7-OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.4331E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:ST-6             .41      .065 No_date   28:00    45.54 .612      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:ST-6             .41      .065 No_date   28:00    45.54  n/a      .000
                  out <=     1.0 01:ST6STR           .41      .036 No_date   28:07    45.54  n/a      .000
             overflow <=     1.0 03:ST6OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.2350E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:PT4ST5        431.02     6.356 No_date   29:13    31.37  n/a      .000
                        +    1.0 02:C6-STR          1.87      .089 No_date   28:21    58.43  n/a      .000
                        +    1.0 02:C6-OVF           .00      .000 No_date    0:00      .00  n/a      .000
                        +    1.0 02:C7-STR          1.62      .077 No_date   28:21    58.43  n/a      .000
                        +    1.0 02:C7-OVF           .00      .000 No_date    0:00      .00  n/a      .000
                        +    1.0 02:ST6STR           .41      .036 No_date   28:07    45.54  n/a      .000
                        +    1.0 02:ST6OVF           .00      .000 No_date    0:00      .00  n/a      .000
                     SUM=    1.0 01:PT5ST6        434.92     6.464 No_date   29:12    31.60  n/a      .000
R0025:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:PT5ST6        434.92     6.464 No_date   29:12    31.60  n/a      .000
      [RDT= 1.00] out<-      1.0 01:DRAIN4        434.92     6.229 No_date   29:21    31.60  n/a      .000
       [L/S/n=  324./  .100/.043]
       {Vmax=  .475:Dmax= 1.440}
R0025:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D4              1.73      .082 No_date   28:34    43.34 .583      .000
       [CN= 88.0:  N= 3.00:  Tp=  .60]
       [IaREC= 4.00:  SMIN= 14.94:  SMAX= 99.61:  SK= .010]
       [InterEventTime=  12.00]
R0025:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:Area-B         24.04     3.916 No_date   28:03    54.85 .737      .000
       [XIMP=.62:TIMP=.77]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious    area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:Area-B         24.04     3.916 No_date   28:03    54.85  n/a      .000
                  out <=     1.0 01:SWMF-B         24.04      .492 No_date   28:44    54.85  n/a      .000
             overflow <=     1.0 03:SWMBOVF          .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.8178E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN4        434.92     6.229 No_date   29:21    31.60  n/a      .000
                        +    1.0 02:D4              1.73      .082 No_date   28:34    43.34  n/a      .000
                        +    1.0 02:SWMF-B         24.04      .492 No_date   28:44    54.85  n/a      .000
                        +    1.0 02:SWMBOVF          .00      .000 No_date    0:00      .00  n/a      .000
                     SUM=    1.0 01:D4-EX         460.69     6.717 No_date   29:21    32.86  n/a      .000
R0025:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:D4-EX         460.69     6.717 No_date   29:21    32.86  n/a      .000
      [RDT= 1.00] out<-      1.0 01:DRAIN5        460.69     6.598 No_date   29:35    32.86  n/a      .000
       [L/S/n=  413./  .160/.033]
       {Vmax=  .641:Dmax=  .984}
R0025:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:D5              1.90      .075 No_date   28:41    40.67 .547      .000
       [CN= 86.0:  N= 3.00:  Tp=  .69]
       [IaREC= 4.00:  SMIN= 17.43:  SMAX=116.21:  SK= .010]
       [InterEventTime=  12.00]
R0025:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-13SDF         9.74      .487 No_date   28:22    38.23 .514      .000
       [CN= 81.0:  N= 3.00:  Tp=  .43]
       [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
       [InterEventTime=  12.00]
R0025:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:O-13SDF         9.74      .487 No_date   28:22    38.23  n/a      .000
                  out <=     1.0 01:SDF             9.74      .052 No_date   31:01    38.23  n/a      .000
             overflow <=     1.0 03:OVFSDF           .00      .000 No_date    0:00      .00  n/a      .000
      {MkStoUsed=.2061E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0025:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:DRAIN5        460.69     6.598 No_date   29:35    32.86  n/a      .000
                        +    1.0 02:D5              1.90      .075 No_date   28:41    40.67  n/a      .000
                        +    1.0 02:SDF             9.74      .052 No_date   31:01    38.23  n/a      .000
                     SUM=    1.0 01:PT6MC         472.33     6.689 No_date   29:35    33.00  n/a      .000
R0025:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-15           10.67      .668 No_date   28:13    37.06 .498      .000
       [CN= 82.0:  N= 3.00:  Tp=  .30]
       [IaREC= 4.00:  SMIN= 23.09:  SMAX=153.94:  SK= .010]
       [InterEventTime=  12.00]
R0025:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:PT6MC         472.33     6.689 No_date   29:35    33.00  n/a      .000
                        +    1.0 02:O-15           10.67      .668 No_date   28:13    37.06  n/a      .000
                     SUM=    1.0 01:M-C           483.00     6.790 No_date   29:34    33.09  n/a      .000
R0025:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:M-C           483.00     6.790 No_date   29:34    33.09  n/a      .000
      [RDT= 1.00] out<-      1.0 01:O-14Ch        483.00     6.173 No_date   30:10    33.09  n/a      .000
       [L/S/n=  845./  .100/.033]
       {Vmax=  .552:Dmax= 1.692}
R0025:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-14            5.00      .516 No_date   28:04    37.06 .498      .000
       [CN= 82.0:  N= 3.00:  Tp=  .13]
       [IaREC= 4.00:  SMIN= 23.09:  SMAX=153.94:  SK= .010]
       [InterEventTime=  12.00]
R0025:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:O-14Ch        483.00     6.173 No_date   30:10    33.09  n/a      .000
                        +    1.0 02:O-14            5.00      .516 No_date   28:04    37.06  n/a      .000
                     SUM=    1.0 01:OKEEFE        488.00     6.203 No_date   30:09    33.13  n/a      .000
#*****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
R0025:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:S-1-D2         18.67     2.960 No_date   28:01    57.38 .771      .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:S-1-D3          6.79     1.150 No_date   28:01    57.38 .771      .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_OK        53064.36   107.111 No_date   33:27    28.68  n/a      .000
                        +    1.0 02:OKEEFE        488.00     6.203 No_date   30:09    33.13  n/a      .000
                        +    1.0 02:S-1-D2         18.67     2.960 No_date   28:01    57.38  n/a      .000
                        +    1.0 02:S-1-D3          6.79     1.150 No_date   28:01    57.38  n/a      .000
                     SUM=    1.0 01:SN_OK       53577.82   109.356 No_date   33:27    28.74  n/a      .000
R0025:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_OK       53577.82   109.356 No_date   33:27    28.74  n/a      .000
       fname :SN_OK.0025
       remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0025:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:SN_OK       53577.82   109.356 No_date   33:27    28.74  n/a      .000
      [RDT= 1.00] out<-      1.0 01:N_FO        53577.82   109.064 No_date   33:50    28.74  n/a      .000
       [L/S/n= 1183./  .076/.035]
       {Vmax= 1.185:Dmax= 3.161}
```

```
#*****************************************************************************
#     Catchment FOSTER
#     - To Foster ditch (north of the Jock)
#     - Partially developed (medium density); remaining agricultural
#     - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#     - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#     - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#*****************************************************************************
R0025:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FOSTER        325.44    28.008 No_date    28:12    52.35 .704      .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#*****************************************************************************
#     Foster Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#*****************************************************************************
R0025:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:FOSTER        325.44    28.008 No_date    28:12    52.35  n/a      .000
                 out <=    1.0 01:P_FOS         325.44     7.246 No_date    29:04    52.35  n/a      .000
            overflow <=    1.0 03:FO-OVF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.7008E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=     0.hrs}
R0025:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:P_FOS         325.44     7.246 No_date    29:04    52.35  n/a      .000
                     +     1.0 02:FO-OVF           .00      .000 No_date     0:00      .00  n/a      .000
                  SUM=     1.0 01:FOSTER-OUT    325.44     7.246 No_date    29:04    52.35  n/a      .000
#*****************************************************************************
R0025:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA     73.29     9.076 No_date    28:05    56.82 .764      .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0025:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA     73.29     9.076 No_date    28:05    56.82  n/a      .000
                 out <=    1.0 01:MS_P10         73.29     1.168 No_date    29:06    56.82  n/a      .000
            overflow <=    1.0 03:P10-OVF          .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.1685E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=     0.hrs}
R0025:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2       4.94      .707 No_date    28:01    52.35 .704      .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FOSTER-OUT    325.44     7.246 No_date    29:04    52.35  n/a      .000
                     +     1.0 02:S-1-FO-D2       4.94      .707 No_date    28:01    52.35  n/a      .000
                  SUM=     1.0 01:980           330.38     7.312 No_date    29:03    52.35  n/a      .000
R0025:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:980           330.38     7.312 No_date    29:03    52.35  n/a      .000
        fname :980.0025
        remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0025:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:980           330.38     7.312 No_date    29:03    52.35  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:980-out       330.38     7.060 No_date    29:12    52.35  n/a      .000
        [L/S/n=  460./ .043/.035]
        {Vmax=  .642:Dmax= 1.518}
R0025:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1       5.11      .830 No_date    28:00    56.90 .765      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:980-out       330.38     7.060 No_date    29:12    52.35  n/a      .000
                     +     1.0 02:S-1-FO-D1       5.11      .830 No_date    28:00    56.90  n/a      .000
                  SUM=     1.0 01:520           335.49     7.118 No_date    29:12    52.42  n/a      .000
R0025:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:520           335.49     7.118 No_date    29:12    52.42  n/a      .000
        fname :520.0025
        remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0025:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:520           335.49     7.118 No_date    29:12    52.42  n/a      .000
      [RDT= 1.00] out<-    1.0 01:520-out       335.49     7.060 No_date    29:22    52.42  n/a      .000
        [L/S/n=  860./ .587/.035]
        {Vmax= 1.475:Dmax=  .723}
R0025:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D     14.96     2.238 No_date    28:02    56.90 .765      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D8          5.27      .945 No_date    28:01    42.02 .565      .000
        [XIMP=.32:TIMP=.65]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-1-A          75.88     2.541 No_date    28:36    34.14 .459      .000
        [CN= 77.0:  N= 3.00:  Tp=  .62]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
R0025:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:W_CLAR_UND     35.65      .789 No_date    29:10    34.14 .459      .000
        [CN= 77.0:  N= 3.00:  Tp= 1.10]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
R0025:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_FO        53577.82   109.064 No_date    33:50    28.74  n/a      .000
                     +     1.0 02:520-out       335.49     7.060 No_date    29:22    52.42  n/a      .000
                     +     1.0 02:MS_P10         73.29     1.168 No_date    29:06    56.82  n/a      .000
                     +     1.0 02:P10-OVF          .00      .000 No_date     0:00      .00  n/a      .000
                     +     1.0 02:W_CLAR_UND     35.65      .789 No_date    29:10    34.14  n/a      .000
                     +     1.0 02:S-1-FO-F-D     14.96     2.238 No_date    28:02    56.90  n/a      .000
                     +     1.0 02:S-1-D8          5.27      .945 No_date    28:01    42.02  n/a      .000
                     +     1.0 02:S-1-A          75.88     2.541 No_date    28:36    34.14  n/a      .000
                  SUM=     1.0 01:SN_FO       54118.36   113.639 No_date    33:28    28.94  n/a      .000
R0025:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_FO       54118.36   113.639 No_date    33:28    28.94  n/a      .000
        fname :SN_FO.0025
        remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0025:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_FO       54118.36   113.639 No_date    33:28    28.94  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_CE        54118.36   113.515 No_date    33:32    28.94  n/a      .000
        [L/S/n=  159./ .082/.035]
        {Vmax= 1.423:Dmax= 3.806}
#*****************************************************************************
#     Catchment S-1
#     - To Jock River (north and south of Jock)
#     - Primarily agricultural fields; portion of sand quarry
#*****************************************************************************
R0025:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-1-B          55.36     2.311 No_date    28:23    34.14 .459      .000
        [CN= 77.0:  N= 3.00:  Tp=  .45]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
#     -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#     -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#     -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0025:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D1         21.67     3.385 No_date    28:01    57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D4          3.28      .581 No_date    28:00    57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D5         12.84     2.083 No_date    28:01    57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D6          1.75      .319 No_date    28:00    57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D7          2.03      .369 No_date    28:00    57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
#     Catchment W_CLAR
#     - To West Clarke Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#     - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#     - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#*****************************************************************************
R0025:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ       1.77      .279 No_date    28:00    52.78 .709      .000
        [XIMP=.46:TIMP=.59]
        [LOSS= 2 :CN= 77.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0025:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:W_CLAR_MJ       1.77      .279 No_date    28:00    52.78  n/a      .000
                 out <=    1.0 01:W_CLAR_MIn      1.73      .213 No_date    27:54    52.78  n/a      .000
            overflow <=    1.0 03:W_CLAR_MJj       .04      .062 No_date    28:01    52.78  n/a      .000
      {MxStoUsed=.1173E-03  m3, TotOvfVol=.2205E-02  m3, N-Ovf=    1, TotDurOvf=     0.hrs}
R0025:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL    119.40    15.305 No_date    28:04    56.82 .764      .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0025:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:W_CLAR_ALL    119.40    15.305 No_date    28:04    56.82  n/a      .000
                     +     1.0 02:W_CLAR_MJj       .04      .062 No_date    28:01    52.78  n/a      .000
                  SUM=     1.0 01:W_CLAR        119.44    15.305 No_date    28:04    56.81  n/a      .000
R0025:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:W_CLAR        119.44    15.305 No_date    28:04    56.81  n/a      .000
        fname :W_CLAR.0025
        remark:Total Flows to West Clarke
#*****************************************************************************
#     West Clarke Pond 2
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*****************************************************************************
R0025:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:W_CLAR        119.44    15.305 No_date    28:04    56.81  n/a      .000
                 out <=    1.0 01:MS_P2         119.44     7.398 No_date    28:20    56.81  n/a      .000
            overflow <=    1.0 03:P2-OVF           .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.2962E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=     0.hrs}
#*****************************************************************************
R0025:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_CE        54118.36   113.515 No_date    33:32    28.94  n/a      .000
                     +     1.0 02:S-1-D4          3.28      .581 No_date    28:00    57.38  n/a      .000
                     +     1.0 02:S-1-D5         12.84     2.083 No_date    28:01    57.38  n/a      .000
                     +     1.0 02:MS_P2         119.44     7.398 No_date    28:20    56.81  n/a      .000
                     +     1.0 02:P2-OVF           .00      .000 No_date     0:00      .00  n/a      .000
                  SUM=     1.0 01:SN_CE       54253.92   114.400 No_date    33:32    29.01  n/a      .000
R0025:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_CE       54253.92   114.400 No_date    33:32    29.01  n/a      .000
        fname :SN_CE.0025
        remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0025:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_CE       54253.92   114.400 No_date    33:32    29.01  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:5737        54253.92   107.664 No_date    36:05    29.01  n/a      .000
        [L/S/n=  270./ .018/.035]
        {Vmax=  .782:Dmax= 4.973}
R0025:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:5737        54253.92   107.664 No_date    36:05    29.01  n/a      .000
                     +     1.0 02:S-1-D1         21.67     3.385 No_date    28:01    57.38  n/a      .000
                     +     1.0 02:S-1-D6          1.75      .319 No_date    28:00    57.38  n/a      .000
                     +     1.0 02:S-1-D7          2.03      .369 No_date    28:00    57.38  n/a      .000
                  SUM=     1.0 01:5002        54279.37   107.746 No_date    36:02    29.03  n/a      .000
R0025:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:5002        54279.37   107.746 No_date    36:02    29.03  n/a      .000
        fname :5002.0025
        remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m  That is because of adding station 5737 be
R0025:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:5002        54279.37   107.746 No_date    36:02    29.03  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_WCa       54279.37   107.733 No_date    36:08    29.03  n/a      .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.210:Dmax= 2.778}
R0025:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:N_WCa       54279.37   107.733 No_date    36:08    29.03  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_WCb       54279.37   107.723 No_date    36:14    29.03  n/a      .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.210:Dmax= 2.778}
R0025:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:N_WCb       54279.37   107.723 No_date    36:14    29.03  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_WC        54279.37   107.676 No_date    36:25    29.03  n/a      .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.210:Dmax= 2.778}
#*****************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0025:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:N_WC        54279.37   107.676 No_date    36:25    29.03  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_KB        54279.37   103.210 No_date    38:36    29.03  n/a      .000
        [L/S/n= 1020./ .050/.035]
        {Vmax= 1.073:Dmax= 3.484}
#*****************************************************************************
#     Catchment KEN_BU
#     - To Kennedy-Burnett SWM Facility
#     - Outlets to Fraser-Clarke drain (north of the Jock)
#     - Medium density residential subdivision
#*****************************************************************************
#*****************************************************************************
#    Existing Kennedy-Burnett SWM Facility
#     - Rating curve obtained from URTKBP
#     - Tributary Drainage Area to Pond = 160 ha
#*****************************************************************************
R0025:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01A         40.82     4.186 No_date    28:11    29.35 .395      .000
        [XIMP=.10:TIMP=.40]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01A         40.82     4.186 No_date    28:11    29.35  n/a      .000
      Major System  /      1.0 02:KB-01A-MJ        .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \      1.0 03:KB-01A-MN      40.82     3.600 No_date    28:03    29.50  n/a      .000
        {MjSysSto=.3786E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0025:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01A-MJ        .00      .000 No_date     0:00      .00  n/a      .000
                     +     1.0 02:KB-01A-MN      40.82     3.600 No_date    28:03    29.50  n/a      .000
                  SUM=     1.0 01:KB-01A-S       40.82     3.600 No_date    28:03    29.50  n/a      .000
R0025:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01B         31.10     3.068 No_date    28:07    32.30 .434      .000
        [XIMP=.19:TIMP=.38]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01B         31.10     3.068 No_date    28:07    32.30  n/a      .000
      Major System  /      1.0 02:KB-01B-MJ        .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \      1.0 03:KB-01B-MN      31.10     1.585 No_date    27:55    32.52  n/a      .000
        {MjSysSto=.1849E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0025:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01B-MJ        .00      .000 No_date     0:00      .00  n/a      .000
                     +     1.0 02:KB-01B-MN      31.10     1.585 No_date    27:55    32.52  n/a      .000
                  SUM=     1.0 01:KB-01B-S       31.10     1.585 No_date    27:55    32.52  n/a      .000
R0025:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01C         13.78     1.868 No_date    28:04    33.51 .450      .000
        [XIMP=.20:TIMP=.41]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01C         13.78     1.868 No_date    28:04    33.51  n/a      .000
      Major System  /      1.0 02:KB-01C-MJ        .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \      1.0 03:KB-01C-MN      13.78     1.350 No_date    27:57    33.69  n/a      .000
        {MjSysSto=.3173E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0025:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01C-MJ        .00      .000 No_date     0:00      .00  n/a      .000
                     +     1.0 02:KB-01C-MN      13.78     1.350 No_date    27:57    33.69  n/a      .000
                  SUM=     1.0 01:KB-01C-S       13.78     1.350 No_date    27:57    33.69  n/a      .000
R0025:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-03          84.78     9.657 No_date    28:08    32.97 .443      .000
        [XIMP=.20:TIMP=.39]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious    area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-03          84.78     9.657 No_date    28:08    32.97  n/a      .000
      Major System  /      1.0 02:KB-03-MJ         .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \      1.0 03:KB-03-MN       84.78     5.270 No_date    27:56    33.21  n/a      .000
        {MjSysSto=.4456E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0025:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-03-MJ         .00      .000 No_date     0:00      .00  n/a      .000
                     +     1.0 02:KB-03-MN       84.78     5.270 No_date    27:56    33.21  n/a      .000
                  SUM=     1.0 01:KB-03-S        84.78     5.270 No_date    27:56    33.21  n/a      .000
```

```
R0025:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-04           6.95     1.434 No_date   28:00   65.29 .878      .000
       [XIMP=.85:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-04           6.95     1.434 No_date   28:00   65.29  n/a      .000
      Major System  /      1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-04-MN        6.95      .503 No_date   27:45   65.54  n/a      .000
       {MjSysSto=.7689E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:KB-04-MN        6.95      .503 No_date   27:45   65.54  n/a      .000
               SUM=        1.0 01:KB-04-S         6.95      .503 No_date   27:45   65.54  n/a      .000
R0025:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-05           5.19     1.147 No_date   28:00   69.06 .928      .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-06          12.93     2.960 No_date   28:00   66.54 .895      .000
       [XIMP=.87:TIMP=.87]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-06          12.93     2.960 No_date   28:00   66.54  n/a      .000
      Major System  /      1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-06-MN       12.93     2.262 No_date   28:07   66.58  n/a      .000
       {MjSysSto=.2613E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:KB-06-MN       12.93     2.262 No_date   28:07   66.58  n/a      .000
               SUM=        1.0 01:KB-06-S        12.93     2.262 No_date   28:07   66.58  n/a      .000
R0025:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-11           4.03      .817 No_date   28:00   55.88 .751      .000
       [XIMP=.68:TIMP=.68]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-11           4.03      .817 No_date   28:00   55.88  n/a      .000
      Major System  /      1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-11-MN        4.03      .577 No_date   27:53   55.96  n/a      .000
       {MjSysSto=.9558E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:KB-11-MN        4.03      .577 No_date   27:53   55.96  n/a      .000
               SUM=        1.0 01:KB-11-S         4.03      .577 No_date   27:53   55.96  n/a      .000
R0025:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S1              4.99     1.184 No_date   28:00   69.06 .928      .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-15           2.15      .447 No_date   28:00   62.65 .842      .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01A-S       40.82     3.600 No_date   28:03   29.50  n/a      .000
                   +       1.0 02:KB-01B-S       31.10     1.585 No_date   27:55   32.52  n/a      .000
                   +       1.0 02:KB-01C-S       13.78     1.350 No_date   27:57   33.69  n/a      .000
                   +       1.0 02:KB-03-S        84.78     5.270 No_date   27:56   33.21  n/a      .000
                   +       1.0 02:KB-04-S         6.95      .503 No_date   27:45   65.54  n/a      .000
                   +       1.0 02:KB-05           5.19     1.147 No_date   28:00   69.06  n/a      .000
                   +       1.0 02:KB-06-S        12.93     2.262 No_date   28:07   66.58  n/a      .000
                   +       1.0 02:KB-11-S         4.03      .577 No_date   27:53   55.96  n/a      .000
                   +       1.0 02:KB-15           2.15      .447 No_date   28:00   62.65  n/a      .000
                   +       1.0 02:S1              4.99     1.184 No_date   28:00   69.06  n/a      .000
               SUM=        1.0 01:KB-P1         206.72    17.555 No_date   28:01   38.09  n/a      .000
R0025:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P1         206.72    17.555 No_date   28:01   38.09  n/a      .000
                 out <=    1.0 01:KB-P1R        201.26    12.438 No_date   28:05   38.09  n/a      .000
            overflow <=    1.0 03:KB-P1ovf        5.46     4.400 No_date   28:05   38.09  n/a      .000
      {MxStoUsed=.7322E+00  m3, TotOvfVol=.2079E+00  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0025:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P1R        201.26    12.438 No_date   28:05   38.09  n/a      .000
                   +       1.0 02:KB-P1ovf        5.46     4.400 No_date   28:05   38.09  n/a      .000
               SUM=        1.0 01:KB-Pond1      206.72    16.838 No_date   28:05   38.09  n/a      .000
R0025:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond1      206.72    16.838 No_date   28:05   38.09  n/a      .000
       fname :KB-Pond1.0025
       remark:Total Flows at KB first pond
R0025:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-07          10.86     2.392 No_date   28:00   65.97 .887      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-07          10.86     2.392 No_date   28:00   65.97  n/a      .000
      Major System  /      1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-07-MN       10.86     2.094 No_date   27:56   66.02  n/a      .000
       {MjSysSto=.7523E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:KB-07-MN       10.86     2.094 No_date   27:56   66.02  n/a      .000
               SUM=        1.0 01:KB-07-S        10.86     2.094 No_date   27:56   66.02  n/a      .000
R0025:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-08           6.61     1.292 No_date   28:00   53.97 .726      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-08           6.61     1.292 No_date   28:00   53.97  n/a      .000
      Major System  /      1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-08-MN        6.61     1.058 No_date   27:55   54.34  n/a      .000
       {MjSysSto=.6817E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:KB-08-MN        6.61     1.058 No_date   27:55   54.34  n/a      .000
               SUM=        1.0 01:KB-08-S         6.61     1.058 No_date   27:55   54.34  n/a      .000
R0025:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-09           2.60      .599 No_date   28:00   65.30 .878      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_1         2.37      .550 No_date   28:00   65.30 .878      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_2         1.14      .266 No_date   28:00   65.30 .878      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-12           4.86     1.059 No_date   28:00   61.90 .832      .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-12           4.86     1.059 No_date   28:00   61.90  n/a      .000
      Major System  /      1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-12-MN        4.86      .867 No_date   27:54   62.20  n/a      .000
       {MjSysSto=.6022E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:KB-12-MN        4.86      .867 No_date   27:54   62.20  n/a      .000
               SUM=        1.0 01:KB-12-S         4.86      .867 No_date   27:54   62.20  n/a      .000
R0025:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-13          10.19     1.930 No_date   28:00   53.97 .726      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-13          10.19     1.930 No_date   28:00   53.97  n/a      .000
      Major System  /      1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-13-MN       10.19     1.722 No_date   27:57   53.98  n/a      .000
       {MjSysSto=.4703E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:KB-13-MN       10.19     1.722 No_date   27:57   53.98  n/a      .000
               SUM=        1.0 01:KB-13-S        10.19     1.722 No_date   27:57   53.98  n/a      .000
R0025:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-14           5.47     1.075 No_date   28:00   53.97 .726      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-14           5.47     1.075 No_date   28:00   53.97  n/a      .000
      Major System  /      1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-14-MN        5.47      .873 No_date   27:55   54.32  n/a      .000
       {MjSysSto=.6018E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:KB-14-MN        5.47      .873 No_date   27:55   54.32  n/a      .000
               SUM=        1.0 01:KB-14-S         5.47      .873 No_date   27:55   54.32  n/a      .000
R0025:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_2         3.42      .649 No_date   28:01   58.24 .783      .000
       [XIMP=.71:TIMP=.71]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond1      206.72    16.838 No_date   28:05   38.09  n/a      .000
                   +       1.0 02:KB-07-S        10.86     2.094 No_date   27:56   66.02  n/a      .000
                   +       1.0 02:KB-08-S         6.61     1.058 No_date   27:55   54.34  n/a      .000
                   +       1.0 02:KB-09           2.60      .599 No_date   28:00   65.30  n/a      .000
                   +       1.0 02:KB-10_1         2.37      .550 No_date   28:00   65.30  n/a      .000
                   +       1.0 02:KB-10_2         1.14      .266 No_date   28:00   65.30  n/a      .000
                   +       1.0 02:KB-12-S         4.86      .867 No_date   27:54   62.20  n/a      .000
                   +       1.0 02:KB-13-S        10.19     1.722 No_date   27:57   53.98  n/a      .000
                   +       1.0 02:KB-14-S         5.47      .873 No_date   27:55   54.32  n/a      .000
                   +       1.0 02:KB-16_2         3.42      .649 No_date   28:01   58.24  n/a      .000
               SUM=        1.0 01:KB-P2         254.24    24.423 No_date   28:05   42.08  n/a      .000
R0025:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P2         254.24    24.423 No_date   28:05   42.08  n/a      .000
                 out <=    1.0 01:KB-P2R        254.24    17.126 No_date   28:11   42.08  n/a      .000
            overflow <=    1.0 03:KB-P2ovf         .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.9755E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P2R        254.24    17.126 No_date   28:11   42.08  n/a      .000
                   +       1.0 02:KB-P2ovf         .00      .000 No_date    0:00     .00  n/a      .000
               SUM=        1.0 01:KB-Pond2      254.24    17.126 No_date   28:11   42.08  n/a      .000
R0025:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond2      254.24    17.126 No_date   28:11   42.08  n/a      .000
       fname :KB-Pond2.0025
       remark:Total Flows at KB second pond
R0025:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_1         2.80      .551 No_date   28:01   60.44 .812      .000
       [XIMP=.75:TIMP=.75]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond2      254.24    17.126 No_date   28:11   42.08  n/a      .000
                   +       1.0 02:KB-16_1         2.80      .551 No_date   28:01   60.44  n/a      .000
               SUM=        1.0 01:KB-P3         257.04    17.347 No_date   28:10   42.28  n/a      .000
R0025:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P3         257.04    17.347 No_date   28:10   42.28  n/a      .000
                 out <=    1.0 01:KB-P3R         10.42      .051 No_date   17:19   42.28  n/a      .000
            overflow <=    1.0 03:KB-P3ovf      246.62    17.293 No_date   28:10   42.28  n/a      .000
      {MxStoUsed=.1993E-02  m3, TotOvfVol=.1043E+02  m3, N-Ovf=    2, TotDurOvf=   23.hrs}
R0025:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P3R         10.42      .051 No_date   17:19   42.28  n/a      .000
                   +       1.0 02:KB-P3ovf      246.62    17.293 No_date   28:10   42.28  n/a      .000
               SUM=        1.0 01:KB-Pond3      257.04    17.344 No_date   28:10   42.28  n/a      .000
R0025:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond3      257.04    17.344 No_date   28:10   42.28  n/a      .000
       fname :KB-Pond3.0025
       remark:Total Flows at KB third pond
#****************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#****************************************************************************
R0025:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-01           8.03     1.288 No_date   28:01   44.33 .596      .000
       [XIMP=.47:TIMP=.47]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-01           8.03     1.288 No_date   28:01   44.33  n/a      .000
      Major System  /      1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:FC-01-MN        8.03      .756 No_date   28:25   44.53  n/a      .000
       {MjSysSto=.2943E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:FC-01-MN        8.03      .756 No_date   27:53   44.53  n/a      .000
               SUM=        1.0 01:FC-01-S         8.03      .756 No_date   27:53   44.53  n/a      .000
R0025:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-02          16.05     3.458 No_date   28:00   69.06 .928      .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-02          16.05     3.458 No_date   28:00   69.06  n/a      .000
      Major System  /      1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:FC-02-MN       16.05     1.159 No_date   27:44   69.13  n/a      .000
       {MjSysSto=.1941E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:FC-02-MN       16.05     1.159 No_date   27:44   69.13  n/a      .000
               SUM=        1.0 01:FC-02-S        16.05     1.159 No_date   27:44   69.13  n/a      .000
R0025:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-03           7.37     1.375 No_date   28:00   53.47 .719      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-03           7.37     1.375 No_date   28:00   53.47  n/a      .000
      Major System  /      1.0 02:FC-03-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:FC-03-MN        7.37      .358 No_date   27:43   53.66  n/a      .000
       {MjSysSto=.9407E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-03-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:FC-03-MN        7.37      .358 No_date   27:43   53.66  n/a      .000
               SUM=        1.0 01:FC-03-S         7.37      .358 No_date   27:43   53.66  n/a      .000
R0025:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-04          12.87     2.308 No_date   28:01   53.47 .719      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-04          12.87     2.308 No_date   28:01   53.47  n/a      .000
      Major System  /      1.0 02:FC-04-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:FC-04-MN       12.87      .741 No_date   27:45   53.74  n/a      .000
       {MjSysSto=.1387E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-04-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:FC-04-MN       12.87      .741 No_date   27:45   53.74  n/a      .000
               SUM=        1.0 01:FC-04-S        12.87      .741 No_date   27:45   53.74  n/a      .000
#****************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#****************************************************************************
R0025:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-01           8.24     1.515 No_date   28:00   53.47 .719      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-01           8.24     1.515 No_date   28:00   53.47  n/a      .000
      Major System  /      1.0 02:JR-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:JR-01-MN        8.24      .563 No_date   28:50   53.74  n/a      .000
       {MjSysSto=.7433E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:JR-01-MN        8.24      .563 No_date   27:45   53.74  n/a      .000
               SUM=        1.0 01:JR-01-S         8.24      .563 No_date   27:45   53.74  n/a      .000
R0025:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-02           1.59      .316 No_date   28:00   53.47 .719      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-02           1.59      .316 No_date   28:00   53.47  n/a      .000
      Major System  /      1.0 02:JR-02-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:JR-02-MN        1.59      .153 No_date   27:47   53.69  n/a      .000
       {MjSysSto=.9432E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-02-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                   +       1.0 02:JR-02-MN        1.59      .153 No_date   27:47   53.69  n/a      .000
               SUM=        1.0 01:JR-02-S         1.59      .153 No_date   27:47   53.69  n/a      .000
#****************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#****************************************************************************
R0025:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FRASER-DRN     13.65      .594 No_date   28:22   34.14 .459      .000
       [CN= 77.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0025:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FRASER-D       21.61     3.258 No_date   28:01   56.29 .757      .000
       [XIMP=.58:TIMP=.58]
       [LOSS= 2 :CN= 80.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
```

```
        [SMIN= 26.32:  SMAX=175.50:  SK= .010]
R0025:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FRASER-D       21.61     3.258 No_date    28:01    56.29  n/a     .000
      Major System   /      1.0 02:FRASER-J         .00      .000 No_date     0:00      .00  n/a     .000
      Minor System   \      1.0 03:FRASER-N       21.61     2.281 No_date    27:55    56.43  n/a     .000
        {MjSysSto=.4729E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FRASER-J         .00      .000 No_date     0:00      .00  n/a     .000
                       +    1.0 02:FRASER-N       21.61     2.281 No_date    27:55    56.43  n/a     .000
                    SUM=    1.0 01:FRASER-S       21.61     2.281 No_date    27:55    56.43  n/a     .000
R0025:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-Pond3      257.04    17.344 No_date    28:10    42.28  n/a     .000
                       +    1.0 02:S-1-B          55.36     2.311 No_date    28:23    34.14  n/a     .000
                       +    1.0 02:FRASER-DRN     13.65      .594 No_date    28:22    34.14  n/a     .000
                       +    1.0 02:FRASER-S       21.61     2.281 No_date    27:55    56.43  n/a     .000
                       +    1.0 02:N_KB        54279.37   103.210 No_date    38:36    29.03  n/a     .000
                       +    1.0 02:FC-01-S         8.03      .756 No_date    27:53    44.53  n/a     .000
                       +    1.0 02:FC-02-S        16.05     1.159 No_date    27:44    69.13  n/a     .000
                       +    1.0 02:FC-03-S         7.37      .358 No_date    27:43    53.66  n/a     .000
                    SUM=    1.0 01:4241        54658.48   103.701 No_date    38:36    29.12  n/a     .000
R0025:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:4241        54658.48   103.701 No_date    38:36    29.12  n/a     .000
        fname :4241.0025
        remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0025:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:4241        54658.48   103.701 No_date    38:36    29.12  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:4241-out    54658.48   103.716 No_date    38:34    29.12  n/a     .000
        [L/S/n=  294./ .109/.035]
        {Vmax= 1.254:Dmax= 2.210}
R0025:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:4241-out    54658.48   103.716 No_date    38:34    29.12  n/a     .000
                       +    1.0 02:FC-04-S        12.87      .741 No_date    27:45    53.74  n/a     .000
                       +    1.0 02:JR-01-S         8.24      .563 No_date    27:45    53.74  n/a     .000
                       +    1.0 02:JR-02-S         1.59      .153 No_date    27:47    53.69  n/a     .000
                    SUM=    1.0 01:SN_KB       54681.18   103.751 No_date    38:34    29.13  n/a     .000
R0025:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_KB       54681.18   103.751 No_date    38:34    29.13  n/a     .000
        fname :SN_KB.0025
        remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0025:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_KB       54681.18   103.751 No_date    38:34    29.13  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_TO        54681.18   103.735 No_date    38:38    29.13  n/a     .000
        [L/S/n=  608./ .247/.035]
        {Vmax= 1.675:Dmax= 1.657}
#****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#****************************************************************************
R0025:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Greenbank      36.60     5.574 No_date    28:02    58.33 .784     .000
        [XIMP=.64:TIMP=.68]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0025:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Greenbank      36.60     5.574 No_date    28:02    58.33  n/a     .000
                 out <=     1.0 01:GreenB_MN      36.60     3.118 No_date    28:11    58.33  n/a     .000
            overflow <=     1.0 03:GreenB_MJ        .00      .000 No_date     0:00      .00  n/a     .000
       {MxStoUsed=.8739E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_TO        54681.18   103.735 No_date    38:38    29.13  n/a     .000
                       +    1.0 02:GreenB_MJ        .00      .000 No_date     0:00      .00  n/a     .000
                       +    1.0 02:GreenB_MN      36.60     3.118 No_date    28:11    58.33  n/a     .000
                    SUM=    1.0 01:GreenB      54717.78   103.842 No_date    38:38    29.15  n/a     .000
R0025:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:GreenB      54717.78   103.842 No_date    38:38    29.15  n/a     .000
        fname :GreenB.0025
        remark:Total Flows at Greenbank Drain
#****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0025:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN2        2.10      .339 No_date    28:00    53.59 .720     .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0025:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN3         .12      .020 No_date    28:00    53.57 .720     .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0025:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MJ        30.23     4.269 No_date    28:02    55.13 .741     .000
        [XIMP=.52:TIMP=.64]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0025:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_ALL      112.91    13.312 No_date    28:05    53.38 .718     .000
        [XIMP=.52:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0025:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_P          3.06      .535 No_date    28:00    57.01 .766     .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0025:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MJ        30.23     4.269 No_date    28:02    55.13  n/a     .000
                 out <=     1.0 01:TODD_MJn       29.48     3.314 No_date    27:57    55.13  n/a     .000
            overflow <=     1.0 03:TODD_MJj         .75      .946 No_date    28:03    55.13  n/a     .000
       {MxStoUsed=.1175E-03  m3,  TotOvfVol=.4153E-01  m3,  N-Ovf=     1,  TotDurOvf=     0.hrs}
# 5-Year + 12% Capture
R0025:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN2        2.10      .339 No_date    28:00    53.59  n/a     .000
                 out <=     1.0 01:TODD_MN2n       2.06      .268 No_date    27:54    53.60  n/a     .000
            overflow <=     1.0 03:TODD_MN2j        .04      .067 No_date    28:00    53.59  n/a     .000
       {MxStoUsed=.8415E-04  m3,  TotOvfVol=.2217E-02  m3,  N-Ovf=     1,  TotDurOvf=     0.hrs}
R0025:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN3         .12      .020 No_date    28:00    53.58  n/a     .000
                 out <=     1.0 01:TODD_MN3n        .11      .016 No_date    27:53    53.58  n/a     .000
            overflow <=     1.0 03:TODD_MN3j        .00      .004 No_date    28:00    53.58  n/a     .000
       {MxStoUsed=.1067E-03  m3,  TotOvfVol=.1192E-03  m3,  N-Ovf=     1,  TotDurOvf=     0.hrs}
R0025:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A2             25.50     2.974 No_date    28:03    49.44 .665     .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A2             25.50     2.974 No_date    28:03    49.44  n/a     .000
      Major System   /      1.0 02:A2-MJ            .00      .000 No_date     0:00      .00  n/a     .000
      Minor System   \      1.0 03:A2-MN          25.50     1.818 No_date    27:54    49.64  n/a     .000
        {MjSysSto=.8120E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:TODD_MN2n       2.06      .268 No_date    27:54    53.60  n/a     .000
                       +    1.0 02:TODD_MN3n        .11      .016 No_date    27:53    53.58  n/a     .000
                       +    1.0 02:TODD_MJj         .75      .946 No_date    28:03    55.13  n/a     .000
                       +    1.0 02:TODD_P          3.06      .535 No_date    28:00    57.01  n/a     .000
                       +    1.0 02:TODD_ALL      112.91    13.312 No_date    28:05    53.38  n/a     .000
                       +    1.0 02:W_CLAR_MJn      1.73      .213 No_date    27:54    52.78  n/a     .000
                    SUM=    1.0 01:TODD          120.62    14.962 No_date    28:03    53.48  n/a     .000
R0025:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:TODD          120.62    14.962 No_date    28:03    53.48  n/a     .000
        fname :TODD.0025
        remark:Total Flows at Todd Drain
#****************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#****************************************************************************
R0025:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD          120.62    14.962 No_date    28:03    53.48  n/a     .000
                 out <=     1.0 01:MS_P3         120.62     9.717 No_date    28:14    53.48  n/a     .000
            overflow <=     1.0 03:P3-OVF           .00      .000 No_date     0:00      .00  n/a     .000
       {MxStoUsed=.2619E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:GreenB      54717.78   103.842 No_date    38:38    29.15  n/a     .000
                       +    1.0 02:MS_P3         120.62     9.717 No_date    28:14    53.48  n/a     .000
                       +    1.0 02:P3-OVF           .00      .000 No_date     0:00      .00  n/a     .000
                       +    1.0 02:TODD_MN2j        .04      .067 No_date    28:00    53.59  n/a     .000
                       +    1.0 02:A2-MJ            .00      .000 No_date     0:00      .00  n/a     .000
                    SUM=    1.0 01:SN_TO       54838.44   104.100 No_date    38:38    29.21  n/a     .000
R0025:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_TO       54838.44   104.100 No_date    38:38    29.21  n/a     .000
        fname :SN_TO.0025
        remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0025:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_TO       54838.44   104.100 No_date    38:38    29.21  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:N_TO        54838.44   104.039 No_date    38:49    29.21  n/a     .000
        [L/S/n=  280./ .050/.045]
        {Vmax=  .905:Dmax= 3.154}
R0025:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:N_TO        54838.44   104.039 No_date    38:49    29.21  n/a     .000
        fname :N_TO.0025
        remark:Total inflows at Station 2462
#****************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#****************************************************************************
R0025:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:corr1          15.87     2.535 No_date    28:01    57.01 .766     .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0025:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:corr1          15.87     2.535 No_date    28:01    57.01  n/a     .000
      Major System   /      1.0 02:corr1-MJ         .00      .000 No_date     0:00      .00  n/a     .000
      Minor System   \      1.0 03:corr1-MN       15.87     1.818 No_date    28:15    57.37  n/a     .000
        {MjSysSto=.3150E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:corr2          12.47      .276 No_date    29:10    34.14 .459     .000
        [CN= 77.0:  N= 3.00:  Tp= 1.10]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
R0025:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A1-Corrig      15.75     2.022 No_date    28:01    49.44 .665     .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A1-Corrig      15.75     2.022 No_date    28:01    49.44  n/a     .000
      Major System   /      1.0 02:A1-MJ            .00      .000 No_date     0:00      .00  n/a     .000
      Minor System   \      1.0 03:A1-MN          15.75     1.818 No_date    27:58    49.57  n/a     .000
        {MjSysSto=.4966E+02,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:B1              2.77      .097 No_date    28:09    21.19 .285     .000
        [CN= 56.0:  N= 3.00:  Tp=  .23]
        [IaREC= 4.00:  SMIN= 79.69:  SMAX=531.24:  SK= .010]
        [InterEventTime=  12.00]
R0025:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A4              1.27      .212 No_date    28:01    57.38 .771     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A4              1.27      .212 No_date    28:01    57.38  n/a     .000
      Major System   /      1.0 02:A4-MJ            .00      .000 No_date     0:00      .00  n/a     .000
      Minor System   \      1.0 03:A4-MN           1.27      .212 No_date    28:01    57.38  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A1-MJ            .00      .000 No_date     0:00      .00  n/a     .000
                       +    1.0 02:A1-MN          15.75     1.818 No_date    27:58    49.57  n/a     .000
                       +    1.0 02:corr1-MJ         .00      .000 No_date     0:00      .00  n/a     .000
                       +    1.0 02:corr1-MN       15.87     1.818 No_date    28:15    57.37  n/a     .000
                       +    1.0 02:corr2          12.47      .276 No_date    29:10    34.14  n/a     .000
                       +    1.0 02:B1              2.77      .097 No_date    28:09    21.19  n/a     .000
                       +    1.0 02:A4-MN           1.27      .212 No_date    28:01    57.38  n/a     .000
                    SUM=    1.0 01:MH101          48.13     3.979 No_date    28:02    46.72  n/a     .000
R0025:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH101          48.13     3.979 No_date    28:02    46.72  n/a     .000
        fname :MH101.0025
        remark:Total Flows at MH101
R0025:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH101          48.13     3.979 No_date    28:02    46.72  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:101-102        48.13     3.953 No_date    28:05    46.72  n/a     .000
        [L/S/n=  368./ .540/.013]
        {Vmax= 3.134:Dmax= 1.114}
        [Din= 1.05:Dused= 1.36]
R0025:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A2-MN          25.50     1.818 No_date    27:54    49.64  n/a     .000
                       +    1.0 02:101-102        48.13     3.953 No_date    28:05    46.72  n/a     .000
                    SUM=    1.0 01:MH102          73.63     5.771 No_date    28:05    47.73  n/a     .000
R0025:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH102          73.63     5.771 No_date    28:05    47.73  n/a     .000
        fname :MH102.0025
        remark:Total Flows at MH102
R0025:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A5              1.60      .279 No_date    28:01    60.02 .807     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A4-MJ            .00      .000 No_date     0:00      .00  n/a     .000
                       +    1.0 02:A5              1.60      .279 No_date    28:01    60.02  n/a     .000
                    SUM=    1.0 01:A5T             1.60      .279 No_date    28:01    60.02  n/a     .000
R0025:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A5T             1.60      .279 No_date    28:01    60.02  n/a     .000
      Major System   /      1.0 02:A5-MJ            .00      .000 No_date     0:00      .00  n/a     .000
      Minor System   \      1.0 03:A5-MN           1.60      .279 No_date    28:01    60.02  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH102          73.63     5.771 No_date    28:05    47.73  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:102-103        73.63     5.682 No_date    28:08    47.73  n/a     .000
        [L/S/n=  504./ .280/.013]
        {Vmax= 2.688:Dmax= 1.448}
        [Din= 1.50:Dused= 1.76]
R0025:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:102-103        73.63     5.682 No_date    28:08    47.73  n/a     .000
                       +    1.0 02:A5-MN           1.60      .279 No_date    28:01    60.02  n/a     .000
                    SUM=    1.0 01:MH103          75.23     5.850 No_date    28:06    47.99  n/a     .000
R0025:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH103          75.23     5.850 No_date    28:06    47.99  n/a     .000
        fname :MH103.0025
        remark:Total Flows at MH103
R0025:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH103          75.23     5.850 No_date    28:06    47.99  n/a     .000
      [RDT= 1.00] out<-     1.0 01:103-104        75.23     5.807 No_date    28:08    47.99  n/a     .000
        [L/S/n=  438./ .460/.013]
        {Vmax= 3.289:Dmax= 1.280}
        [Din= 1.65:Dused= 1.65]
R0025:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A6              1.56      .274 No_date    28:00    60.02 .807     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A5-MJ            .00      .000 No_date     0:00      .00  n/a     .000
                       +    1.0 02:A6              1.56      .274 No_date    28:00    60.02  n/a     .000
                    SUM=    1.0 01:A6T             1.56      .274 No_date    28:00    60.02  n/a     .000
R0025:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A6T             1.56      .274 No_date    28:00    60.02  n/a     .000
      Major System   /      1.0 02:A6-MJ            .00      .000 No_date     0:00      .00  n/a     .000
      Minor System   \      1.0 03:A6-MN           1.56      .274 No_date    28:00    60.02  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A6-MN           1.56      .274 No_date    28:00    60.02  n/a     .000
                       +    1.0 02:103-104        75.23     5.807 No_date    28:08    47.99  n/a     .000
                       +    1.0 02:TODD_MJn       29.48     3.314 No_date    27:57    55.13  n/a     .000
                    SUM=    1.0 01:MH104         106.27     9.269 No_date    28:06    50.14  n/a     .000
R0025:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH104         106.27     9.269 No_date    28:06    50.14  n/a     .000
        fname :MH104.0025
        remark:Total Flows at MH104
R0025:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B2             12.31     1.521 No_date    28:02    49.75 .669     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B2             12.31     1.521 No_date    28:02    49.75  n/a     .000
      Major System   /      1.0 02:B2-MJ            .00      .000 No_date     0:00      .00  n/a     .000
      Minor System   \      1.0 03:B2-MN          12.31     1.029 No_date    27:55    49.85  n/a     .000
        {MjSysSto=.2691E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:B2-MN          12.31     1.029 No_date    27:55    49.85  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:315-333        12.31     1.029 No_date    28:24    49.85  n/a     .000
        [L/S/n=  254./ .100/.013]
        {Vmax= 1.220:Dmax=  .838}
        [Din= 1.20:Dused= 1.20]
R0025:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B3              5.59      .715 No_date    28:02    49.75 .669     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
```

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     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:B3                5.59     .715 No_date   28:02   49.75  n/a     .000
    Major System   /     1.0 02:B3-MJ              .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:B3-MN             5.59     .459 No_date   27:54   49.80  n/a     .000
     {MjSysSto=.1451E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:B3-MN             5.59     .459 No_date   27:54   49.80  n/a     .000
                    +    1.0 02:315-333          12.31    1.029 No_date   28:24   49.85  n/a     .000
                 SUM=    1.0 01:MH333            17.90    1.488 No_date   28:24   49.83  n/a     .000
R0025:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD              1.0 01:MH333            17.90    1.488 No_date   28:24   49.83  n/a     .000
     fname :MH333.0025
     remark:Total Flows at MH333
R0025:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:MH333            17.90    1.488 No_date   28:24   49.83  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:333-335          17.90    1.485 No_date   28:24   49.83  n/a     .000
     [L/S/n=  251./ .100/.013]
     {Vmax= 1.302:Dmax= 1.057}
     [Din= 1.20:Dused= 1.29}
R0025:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:333-335          17.90    1.485 No_date   28:24   49.83  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:335-338          17.90    1.490 No_date   28:26   49.83  n/a     .000
     [L/S/n=  185./ .100/.013]
     {Vmax= 1.301:Dmax= 1.056}
     [Din= 1.20:Dused= 1.29}
R0025:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:335-338          17.90    1.490 No_date   28:26   49.83  n/a     .000
     [RDT= 1.00] out<-   1.0 01:338-340          17.90    1.456 No_date   28:26   49.83  n/a     .000
     [L/S/n=  233./ .100/.013]
     {Vmax= 1.331:Dmax=  .985}
     [Din= 1.35:Dused= 1.35}
R0025:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:B4                7.60     .960 No_date   28:02   49.75 .669     .000
     [XIMP=.41:TIMP=.54]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:B4                7.60     .960 No_date   28:02   49.75  n/a     .000
    Major System   /     1.0 02:B4-MJ              .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:B4-MN             7.60     .655 No_date   27:55   50.00  n/a     .000
     {MjSysSto=.1611E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:338-340          17.90    1.456 No_date   28:26   49.83  n/a     .000
                    +    1.0 02:B4-MN             7.60     .655 No_date   27:55   50.00  n/a     .000
                 SUM=    1.0 01:MH340            25.50    2.104 No_date   28:18   49.88  n/a     .000
R0025:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD              1.0 01:MH340            25.50    2.104 No_date   28:18   49.88  n/a     .000
     fname :MH340.0025
     remark:Total Flows at MH340
R0025:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:MH340            25.50    2.104 No_date   28:18   49.88  n/a     .000
     [RDT= 1.00] out<-   1.0 01:340-104          25.50    2.086 No_date   28:18   49.88  n/a     .000
     [L/S/n=  240./ .150/.013]
     {Vmax= 1.722:Dmax=  .917}
     [Din= 1.65:Dused= 1.65}
R0025:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:340-104          25.50    2.086 No_date   28:18   49.88  n/a     .000
                    +    1.0 02:MH104           106.27    9.269 No_date   28:06   50.14  n/a     .000
                 SUM=    1.0 01:MH104T          131.77   11.233 No_date   28:08   50.09  n/a     .000
R0025:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:MH104T          131.77   11.233 No_date   28:08   50.09  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:104-105         131.77   10.846 No_date   28:08   50.09  n/a     .000
     [L/S/n=  380./ .100/.013]
     {Vmax= 2.100:Dmax= 1.992}
     {HGTH= 2.35:WDTH= 2.68}
R0025:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:B5                2.20     .346 No_date   28:00   53.85 .724     .000
     [XIMP=.57:TIMP=.57]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:B5                2.20     .346 No_date   28:00   53.85  n/a     .000
    Major System   /     1.0 02:B5-MJ              .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:B5-MN             2.20     .260 No_date   27:54   53.87  n/a     .000
     {MjSysSto=.3304E+02,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:A8                 .96     .177 No_date   28:00   60.02 .807     .000
     [XIMP=.71:TIMP=.71]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:A6-MJ              .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A8                 .96     .177 No_date   28:00   60.02  n/a     .000
                 SUM=    1.0 01:A8T                .96     .177 No_date   28:00   60.02  n/a     .000
R0025:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:A8T                .96     .177 No_date   28:00   60.02  n/a     .000
    Major System   /     1.0 02:A8-MJ              .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:A8-MN              .96     .177 No_date   28:00   60.02  n/a     .000
     {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:104-105         131.77   10.846 No_date   28:08   50.09  n/a     .000
                    +    1.0 02:B5-MN             2.20     .260 No_date   27:54   53.87  n/a     .000
                    +    1.0 02:A8-MN              .96     .177 No_date   28:00   60.02  n/a     .000
                    +    1.0 02:TODD_MN3j          .00     .004 No_date   28:00   53.58  n/a     .000
                 SUM=    1.0 01:MH105           134.93   11.175 No_date   28:08   50.23  n/a     .000
R0025:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD              1.0 01:MH105           134.93   11.175 No_date   28:08   50.23  n/a     .000
     fname :MH105.0025
     remark:Total Flows at MH105
R0025:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 * DIVERT HYD       ->   1.0 01:A8-MJ              .00     .000 No_date    0:00     .00  n/a     .000
          diverted <=    1.0 02:A8-MJ-JR           .00     .000 No_date    0:00     .00  n/a     .000
          diverted <=    1.0 03:A8-MJ-B6           .00     .000 No_date    0:00     .00  n/a     .000
R0025:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   DIVERT HYD       ->   1.0 01:MH105           134.93   11.175 No_date   28:08   50.23  n/a     .000
          diverted <=    1.0 02:MH105-JR         33.95    8.167 No_date   28:08   50.23  n/a     .000
          diverted <=    1.0 03:MH105-B6        100.98    3.008 No_date   28:08   50.23  n/a     .000
R0025:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:B7                7.19     .975 No_date   28:01   49.75 .669     .000
     [XIMP=.41:TIMP=.54]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:B4-MJ              .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:B7                7.19     .975 No_date   28:01   49.75  n/a     .000
                 SUM=    1.0 01:B7-B4MJ           7.19     .975 No_date   28:01   49.75  n/a     .000
R0025:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:B7-B4MJ           7.19     .975 No_date   28:01   49.75  n/a     .000
    Major System   /     1.0 02:B7R-MJ             .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:B7R-MN            7.19     .629 No_date   27:53   50.01  n/a     .000
     {MjSysSto=.1702E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:B7R-MN            7.19     .629 No_date   27:53   50.01  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:360-106A          7.19     .629 No_date   28:21   50.01  n/a     .000
     [L/S/n=  167./ .100/.013]
     {Vmax= 1.089:Dmax=  .665}
     [Din= 1.05:Dused= 1.05}
R0025:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:B6                3.29     .465 No_date   28:00   49.75 .669     .000
     [XIMP=.41:TIMP=.54]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:B6                3.29     .465 No_date   28:00   49.75  n/a     .000
    Major System   /     1.0 02:B6-MJ              .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:B6-MN             3.29     .064 No_date   27:34   49.75  n/a     .000
     {MjSysSto=.5165E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:EX-LAND          32.50    4.063 No_date   28:02   50.08 .673     .000
     [XIMP=.50:TIMP=.50]
     [LOSS= 2 :CN= 74.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:EX-LAND          32.50    4.063 No_date   28:02   50.08  n/a     .000
    Major System   /     1.0 02:EX-LAND-MJ         .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:EX-LAND-MN       32.50    2.275 No_date   27:52   50.26  n/a     .000
     {MjSysSto=.1224E+04,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:B7R-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:EX-LAND-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:B5-MJ              .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:B6-MJ              .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:B6-MN             3.29     .064 No_date   27:34   49.75  n/a     .000
                    +    1.0 02:A8-MJ-B6           .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:B6-B7ExMJ         3.29     .064 No_date   27:34   49.75  n/a     .000
R0025:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:B6-B7ExMJ         3.29     .064 No_date   27:34   49.75  n/a     .000
    Major System   /     1.0 02:B6R-MJ             .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:B6R-MN            3.29     .064 No_date   27:34   49.75  n/a     .000
     {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:MH105-B6        100.98    3.008 No_date   28:08   50.23  n/a     .000
     [RDT= 1.00] out<-   1.0 01:105-106A        100.98    3.018 No_date   28:02   50.23  n/a     .000
     [L/S/n=  208./ .100/.013]
     {Vmax= 1.597:Dmax= 1.249}
     [Din= 1.80:Dused= 1.80}
R0025:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:360-106A          7.19     .629 No_date   28:21   50.01  n/a     .000
                    +    1.0 02:105-106A        100.98    3.018 No_date   28:02   50.23  n/a     .000
                    +    1.0 02:B6R-MN            3.29     .064 No_date   27:34   49.75  n/a     .000
                    +    1.0 02:B6R-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:MH106A          111.46    3.702 No_date   28:02   50.20  n/a     .000
R0025:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD              1.0 01:MH106A          111.46    3.702 No_date   28:02   50.20  n/a     .000
     fname :MH106A.0025
     remark:Total Flows at MH106A
R0025:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:MH106A          111.46    3.702 No_date   28:02   50.20  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:106A-106        111.46    3.699 No_date   28:16   50.20  n/a     .000
     [L/S/n=  190./ .100/.013]
     {Vmax= 1.635:Dmax= 1.487}
     [Din= 1.80:Dused= 1.81}
R0025:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:A9                2.44     .433 No_date   28:00   60.02 .807     .000
     [XIMP=.71:TIMP=.71]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:A9                2.44     .433 No_date   28:00   60.02  n/a     .000
    Major System   /     1.0 02:A9-MJ              .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:A9-MN             2.44     .433 No_date   28:00   60.02  n/a     .000
R0025:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:106A-106        111.46    3.699 No_date   28:16   50.20  n/a     .000
                    +    1.0 02:A9-MN             2.44     .433 No_date   28:00   60.02  n/a     .000
                 SUM=    1.0 01:MH106           113.90    4.090 No_date   28:01   50.41  n/a     .000
R0025:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD              1.0 01:MH106           113.90    4.090 No_date   28:01   50.41  n/a     .000
     fname :MH106.0025
     remark:Total Flows at MH106
R0025:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:MH106           113.90    4.090 No_date   28:01   50.41  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:106-107         113.90    4.067 No_date   28:03   50.41  n/a     .000
     [L/S/n=  123./ .100/.013]
     {Vmax= 1.676:Dmax= 1.544}
     [Din= 1.80:Dused= 1.88}
R0025:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:A10               4.14     .526 No_date   28:01   46.81 .629     .000
     [XIMP=.35:TIMP=.47]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:A10               4.14     .526 No_date   28:01   46.81  n/a     .000
    Major System   /     1.0 02:A10-MJ             .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:A10-MN            4.14     .310 No_date   27:52   46.90  n/a     .000
     {MjSysSto=.1196E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:A11              10.61    1.511 No_date   28:01   54.09 .727     .000
     [XIMP=.53:TIMP=.62]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:A11              10.61    1.511 No_date   28:01   54.09  n/a     .000
    Major System   /     1.0 02:A11-MJ             .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:A11-MN           10.61     .993 No_date   27:54   54.21  n/a     .000
     {MjSysSto=.2791E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:106-107         113.90    4.067 No_date   28:03   50.41  n/a     .000
                    +    1.0 02:A10-MN            4.14     .310 No_date   27:52   46.90  n/a     .000
                    +    1.0 02:A11-MN           10.61     .993 No_date   27:54   54.21  n/a     .000
                 SUM=    1.0 01:MH107           128.65    5.370 No_date   28:03   50.61  n/a     .000
R0025:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD              1.0 01:MH107           128.65    5.370 No_date   28:03   50.61  n/a     .000
     fname :MH107.0025
     remark:Total Flows at MH107
R0025:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:MH107           128.65    5.370 No_date   28:03   50.61  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:107-119         128.65    5.374 No_date   28:04   50.61  n/a     .000
     [L/S/n=  114./ .120/.013]
     {Vmax= 1.922:Dmax= 1.653}
     [Din= 1.80:Dused= 2.01}
R0025:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:107-119         128.65    5.374 No_date   28:04   50.61  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:119-108         128.65    5.354 No_date   28:04   50.61  n/a     .000
     [L/S/n=   66./ .120/.013]
     {Vmax= 1.922:Dmax= 1.653}
     [Din= 1.80:Dused= 2.01}
R0025:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:A12              12.29    1.704 No_date   28:01   49.75 .669     .000
     [XIMP=.41:TIMP=.54]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:A12              12.29    1.704 No_date   28:01   49.75  n/a     .000
    Major System   /     1.0 02:A12-MJ             .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:A12-MN           12.29    1.029 No_date   27:52   49.91  n/a     .000
     {MjSysSto=.3558E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:A13               2.59     .435 No_date   28:01   60.02 .807     .000
     [XIMP=.71:TIMP=.71]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   COMPUTE DUALHYD       1.0 01:A13               2.59     .435 No_date   28:01   60.02  n/a     .000
    Major System   /     1.0 02:A13-MJ             .00     .000 No_date    0:00     .00  n/a     .000
    Minor System   \     1.0 03:A13-MN            2.59     .435 No_date   28:01   60.02  n/a     .000
R0025:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD   1.0 01:Pond-Block        2.94     .375 No_date   28:00   47.01 .632     .000
     [XIMP=.41:TIMP=.41]
     [LOSS= 2 :CN= 75.0]
     [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00:  IaRECper=   4.00]
     [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:119-108         128.65    5.354 No_date   28:04   50.61  n/a     .000
                    +    1.0 02:A13-MN            2.59     .435 No_date   28:01   60.02  n/a     .000
                    +    1.0 02:A12-MN           12.29    1.029 No_date   27:52   49.91  n/a     .000
                 SUM=    1.0 01:MH108           143.53    6.791 No_date   28:03   50.72  n/a     .000
R0025:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD              1.0 01:MH108           143.53    6.791 No_date   28:03   50.72  n/a     .000
     fname :MH108.0025
     remark:Total Flows at MH108
R0025:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:MH108           143.53    6.791 No_date   28:03   50.72  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:108-116         143.53    6.772 No_date   28:04   50.72  n/a     .000
     [L/S/n=   77./ .130/.013]
     {Vmax= 2.100:Dmax= 1.778}
     [Din= 1.80:Dused= 2.17}
R0025:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE PIPE       ->   1.0 02:108-116         143.53    6.772 No_date   28:04   50.72  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:116-corrig      143.53    6.762 No_date   28:05   50.72  n/a     .000
     [L/S/n=   80./ .130/.013]
     {Vmax= 2.098:Dmax= 1.776}
     [Din= 1.80:Dused= 2.16}
R0025:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:116-corrig      143.53    6.762 No_date   28:05   50.72  n/a     .000
                    +    1.0 02:Pond-Block        2.94     .375 No_date   28:00   47.01  n/a     .000
                 SUM=    1.0 01:Corrigan        146.47    7.034 No_date   28:04   50.65  n/a     .000
R0025:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD              1.0 01:Corrigan        146.47    7.034 No_date   28:04   50.65  n/a     .000
     fname :Corrigan.0025
     remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0025:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->    1.0 02:Corrigan        146.47    7.034 No_date   28:04   50.65  n/a     .000
               out <=    1.0 01:Co-P            146.47    6.458 No_date   28:16   50.64  n/a     .000
          overflow <=    1.0 03:Co-P-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1034E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD               1.0 02:Co-P-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:Co-P            146.47    6.458 No_date   28:16   50.64  n/a     .000
                    +    1.0 02:N_TO          54838.44  104.039 No_date   38:49   29.21  n/a     .000
                    +    1.0 02:MH105-JR         33.95    8.167 No_date   28:08   50.23  n/a     .000
                    +    1.0 02:A8-MJ-JR           .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A9-MJ              .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A10-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A11-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A12-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A13-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:corrig        55018.86  104.282 No_date   38:51   29.28  n/a     .000
R0025:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD              1.0 01:corrig        55018.86  104.282 No_date   38:51   29.28  n/a     .000
     fname :corrig.0025
     remark:Total Flows at Corrigan Pond
#**************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#**************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0025:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE CHANNEL    ->   1.0 02:corrig        55018.86  104.282 No_date   38:51   29.28  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N_MI          55018.86  104.271 No_date   38:54   29.28  n/a     .000
     [L/S/n=  580./ .445/.045]
     {Vmax= 1.916:Dmax= 1.792}
#**************************************************************************
#    Catchment MILLS
```

```
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#*****************************************************************************
R0025:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:MILLS          175.99   15.275 No_date   28:07   44.62 .600     .000
       [XIMP=.38:TIMP=.38]
       [LOSS= 2 :CN= 74.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#*****************************************************************************
#     Chapman Mills SWM Pond
#     - Rating curve obtained from CCL hydraulic modeling
#*****************************************************************************
R0025:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:MILLS          175.99   15.275 No_date   28:07   44.62  n/a     .000
                 out <=    1.0 01:MILL_P         162.60    4.050 No_date   28:16   44.62  n/a     .000
            overflow <=    1.0 03:MIL-OV          13.39    8.160 No_date   28:16   44.62  n/a     .000
      {MxStoUsed=.2310E+01  m3, TotOvfVol=.5973E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0025:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_MI         55018.86  104.271 No_date   38:54   29.28  n/a     .000
                     +     1.0 02:MIL-OV          13.39    8.160 No_date   28:16   44.62  n/a     .000
                     +     1.0 02:MILL_P         162.60    4.050 No_date   28:16   44.62  n/a     .000
                  SUM=     1.0 01:SN_MI        55194.86  104.675 No_date   38:54   29.33  n/a     .000
R0025:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_MI        55194.86  104.675 No_date   38:54   29.33  n/a     .000
       fname :SN_MI.0025
       remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0025:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_MI        55194.86  104.675 No_date   38:54   29.33  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N_DE         55194.86  104.438 No_date   39:12   29.33  n/a     .000
       [L/S/n= 1962./ .223/.045]
       {Vmax= 1.484:Dmax= 2.267}
#*****************************************************************************
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#*****************************************************************************
R0025:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:DESIRE          23.78    2.161 No_date   28:03   40.77 .548     .000
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#*****************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#*****************************************************************************
R0025:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JOCKVA         225.13   21.797 No_date   28:07   50.08 .673     .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:EX-LAND-MN      32.50    2.275 No_date   27:52   50.26  n/a     .000
                     +     1.0 02:JOCKVA         225.13   21.797 No_date   28:07   50.08  n/a     .000
                     +     1.0 02:B2-MI             .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:B3-MI             .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:JOCKVA-TO      257.63   24.072 No_date   28:07   50.10  n/a     .000
R0025:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:JOCKVA-TO      257.63   24.072 No_date   28:07   50.10  n/a     .000
       fname :JOCKVA-TO.0025
       remark:Total Flows at KB first pond
#*****************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#*****************************************************************************
R0025:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO      257.63   24.072 No_date   28:07   50.10  n/a     .000
                 out <=    1.0 01:JOCK_P         257.63    9.145 No_date   28:37   50.10  n/a     .000
            overflow <=    1.0 03:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5425E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_DE         55194.86  104.438 No_date   39:12   29.33  n/a     .000
                     +     1.0 02:DESIRE          23.78    2.161 No_date   28:03   40.77  n/a     .000
                     +     1.0 02:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:JOCK_P         257.63    9.145 No_date   28:37   50.10  n/a     .000
                  SUM=     1.0 01:SN_DE        55476.27  105.082 No_date   39:11   29.43  n/a     .000
R0025:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_DE        55476.27  105.082 No_date   39:11   29.43  n/a     .000
       fname :SN_DE.0025
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0025:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_DE        55476.27  105.082 No_date   39:11   29.43  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N1           55476.27  105.073 No_date   39:15   29.43  n/a     .000
       [L/S/n=  563./ .967/.045]
       {Vmax= 1.944:Dmax= 1.136}
#*****************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#*****************************************************************************
R0025:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-2            102.94    3.971 No_date   28:20   30.13 .405     .000
       [CN= 72.0: N= 3.00: Tp=  .40]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0025:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N1           55476.27  105.073 No_date   39:15   29.43  n/a     .000
                     +     1.0 02:S-2            102.94    3.971 No_date   28:20   30.13  n/a     .000
                  SUM=     1.0 01:SN_N1        55579.21  105.274 No_date   39:15   29.43  n/a     .000
R0025:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_N1        55579.21  105.274 No_date   39:15   29.43  n/a     .000
       fname :SN_N1.0025
       remark:Total Flows at Rideau River
##############################################################################
  ** END OF RUN :   49

*********************************************************************************************






 RUN#:COMMAND#
R0050:C00001-------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on       0]
       [METOUT=  2   (1=imperial, 2=metric output)]
       [NSTORM=  1 ]
       [NRUN  = 0050 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [M M]
#  Company       : JFSAinc.
#  License #     :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# ----------------------------------------------------------------------------
R0050:C00002-------------------------------------------------------------------------------------
      READ STORM
       Filename = storm001
       Comment  = Pluie SCS de 24 hres 1:50 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  81.51]
R0050:C00003-------------------------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  81.51]
R0050:C00004-------------------------------------------------------------------------------------
      DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   4.67 mm] [N= 3.00]
       Average monthly Pan Evaporation data in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0050:C00005-------------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
       {APImax=113.33:  APIavg= 67.14:  APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_HW         3680.00   18.440 No_date   36:55   30.33 .372     .000
       [CN= 64.0: N= 3.00: Tp= 7.13]
       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_13          971.00    6.937 No_date   32:34   28.27 .347     .000
       [CN= 61.0: N= 3.00: Tp= 3.76]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_GWM        3074.00    8.912 No_date   39:59   24.31 .298     .000
       [CN= 55.0: N= 3.00: Tp=11.33]
       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
       [InterEventTime=  12.00]
R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_ASH        1781.00   16.834 No_date   32:39   36.85 .452     .000
       [CN= 72.0: N= 3.00: Tp= 3.91]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_11          500.00    9.061 No_date   29:21   31.73 .389     .000
       [CN= 66.0: N= 3.00: Tp= 1.24]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NN_CK         1917.00   12.342 No_date   34:26   31.73 .389     .000
       [CN= 66.0: N= 3.00: Tp= 5.29]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_10         5666.00   32.402 No_date   37:52   36.85 .452     .000
       [CN= 72.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:KG_CK         8376.00   31.024 No_date   39:59   31.73 .389     .000
       [CN= 66.0: N= 3.00: Tp=11.66]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_9          1132.00   14.039 No_date   30:53   35.35 .434     .000
       [CN= 70.0: N= 3.00: Tp= 2.51]
       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NC_CK         4464.00   15.472 No_date   39:59   28.95 .355     .000
       [CN= 62.0: N= 3.00: Tp=11.32]
       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_8           131.00    2.740 No_date   28:57   29.64 .364     .000
       [CN= 63.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:HB_DR         3854.00   18.180 No_date   38:32   31.73 .389     .000
       [CN= 66.0: N= 3.00: Tp= 8.42]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_7          3197.00   13.937 No_date   36:23   25.61 .314     .000
       [CN= 57.0: N= 3.00: Tp= 6.65]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_6           165.00    1.285 No_date   33:02   32.44 .398     .000
       [CN= 67.0: N= 3.00: Tp= 4.18]
       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:VG_DR         1332.00    9.332 No_date   35:12   36.85 .452     .000
       [CN= 72.0: N= 3.00: Tp= 5.95]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5           224.00    8.187 No_date   28:45   41.51 .509     .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FL_CK         4945.00   44.623 No_date   33:18   38.37 .471     .000
       [CN= 74.0: N= 3.00: Tp= 4.45]
       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
       [InterEventTime=  12.00]
R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A2          20.00     .943 No_date   28:35   45.60 .560     .000
       [CN= 81.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A1        1412.00    8.794 No_date   37:48   39.93 .490     .000
       [CN= 75.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
       [InterEventTime=  12.00]
R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_4           585.00   12.896 No_date   29:55   45.60 .560     .000
       [CN= 81.0: N= 3.00: Tp= 1.75]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:LM_CK         1021.00   17.059 No_date   30:46   44.77 .549     .000
       [CN= 80.0: N= 3.00: Tp= 2.46]
       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
       [InterEventTime=  12.00]
R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_2           177.00    6.469 No_date   28:45   41.51 .509     .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SM_DR         1122.00   15.544 No_date   31:43   45.60 .560     .000
       [CN= 81.0: N= 3.00: Tp= 3.25]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:MO_DR         2737.00   34.946 No_date   31:29   40.72 .500     .000
       [CN= 76.0: N= 3.00: Tp= 3.03]
       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR_HW         3680.00   18.440 No_date   36:55   30.33  n/a     .000
                     +     1.0 02:SW_13          971.00    6.937 No_date   32:34   28.27  n/a     .000
                  SUM=     1.0 01:S_N13         4651.00   23.559 No_date   35:24   29.90  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N13         4651.00   23.559 No_date   35:24   29.90  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N13A          4651.00   19.136 No_date   39:06   29.90  n/a     .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .574:Dmax= 3.920}
```

```
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N13A        4651.00   19.136 No_date   39:06   29.90  n/a     .000
                      +      1.0 02:JR_GWM      3074.00    8.912 No_date   39:59   24.31  n/a     .000
                   SUM=      1.0 01:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
                 out <=      1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
      {MxStoUsed=.1481E+03  m3}
#
R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .556:Dmax= 1.541}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
                      +      1.0 02:JR_ASH      1781.00   16.834 No_date   32:39   36.85  n/a     .000
                   SUM=      1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
      [RDT= 1.00] out<-      1.0 01:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .751:Dmax= 3.029}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
                      +      1.0 02:SW_11        500.00    9.061 No_date   29:21   31.73  n/a     .000
                      +      1.0 02:NN_CK       1917.00   12.342 No_date   34:26   31.73  n/a     .000
                   SUM=      1.0 01:S_N11      11923.00   32.851 No_date   33:00   29.87  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N11      11923.00   32.851 No_date   33:00   29.87  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N10        11923.00   20.490 No_date   40:02   29.87  n/a     .000
       [L/S/n=14028./ .157/.040]
       {Vmax=  .474:Dmax= 1.423}
#
# Addition of Subwatershed 10 to Node 10
#
R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N10        11923.00   20.490 No_date   40:02   29.87  n/a     .000
                      +      1.0 02:SW_10       5666.00   32.402 No_date   37:52   36.85  n/a     .000
                   SUM=      1.0 01:S_N10      17589.00   52.600 No_date   38:19   32.12  n/a     .000
R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:S_N10      17589.00   52.600 No_date   38:19   32.12  n/a     .000
       fname :H_SN10
       remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S_N10      17589.00   52.600 No_date   38:19   32.12  n/a     .000
                      +      1.0 02:KG_CK       8376.00   31.024 No_date   39:59   31.73  n/a     .000
                   SUM=      1.0 01:S_N10A     25965.00   82.746 No_date   39:45   31.99  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N10A     25965.00   82.746 No_date   39:45   31.99  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N9         25965.00   80.980 No_date   39:59   31.99  n/a     .000
       [L/S/n= 3982./ .075/.040]
       {Vmax=  .744:Dmax= 2.015}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N9         25965.00   80.980 No_date   39:59   31.99  n/a     .000
                      +      1.0 02:SW_9        1132.00   14.039 No_date   30:53   35.35  n/a     .000
                      +      1.0 02:NC_CK       4464.00   15.472 No_date   39:59   28.95  n/a     .000
                   SUM=      1.0 01:S_N9       31561.00   99.424 No_date   39:59   31.68  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N9       31561.00   99.424 No_date   39:59   31.68  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N8         31561.00   93.665 No_date   39:59   31.68  n/a     .000
       [L/S/n= 2269./ .088/.045]
       {Vmax=  .367:Dmax= 1.834}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N8         31561.00   93.665 No_date   39:59   31.68  n/a     .000
                      +      1.0 02:SW_8         131.00    2.740 No_date   28:57   29.64  n/a     .000
                      +      1.0 02:HB_DR       3854.00   18.180 No_date   38:32   31.73  n/a     .000
                   SUM=      1.0 01:S_N8       35546.00  111.843 No_date   39:59   31.68  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N8       35546.00  111.843 No_date   39:59   31.68  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N7         35546.00   95.475 No_date   44:55   31.68  n/a     .000
       [L/S/n= 3750./ .053/.070]
       {Vmax=  .231:Dmax= 2.290}
#
# Addition of Subwatershed 7 to Node 7
#
R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N7         35546.00   95.475 No_date   44:55   31.68  n/a     .000
                      +      1.0 02:SW_7        3197.00   13.937 No_date   36:23   25.61  n/a     .000
                   SUM=      1.0 01:S_N7       38743.00  102.892 No_date   43:46   31.18  n/a     .000
R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:S_N7       38743.00  102.892 No_date   43:46   31.18  n/a     .000
       fname :H_SN7
       remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S_N7       38743.00  102.892 No_date   43:46   31.18  n/a     .000
                 out <=      1.0 01:RES_RF     38743.00   52.029 No_date   59:07   31.18  n/a     .000
      {MxStoUsed=.4394E+03  m3}
R0050:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:RES_RF     38743.00   52.029 No_date   59:07   31.18  n/a     .000
       fname :H_ResRF
       remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0050:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:RES_RF     38743.00   52.029 No_date   59:07   31.18  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N6         38743.00   51.784 No_date   60:27   31.18  n/a     .000
       [L/S/n= 3056./ .082/.025]
       {Vmax=  .538:Dmax= 1.253}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0050:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N6         38743.00   51.784 No_date   60:27   31.18  n/a     .000
                      +      1.0 02:SW_6         165.00    1.285 No_date   33:02   32.44  n/a     .000
                      +      1.0 02:VG_DR       1332.00    9.332 No_date   35:12   36.85  n/a     .000
                   SUM=      1.0 01:S_N6       40240.01   51.810 No_date   60:20   31.37  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0050:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N6       40240.01   51.810 No_date   60:20   31.37  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N5         40240.01   51.693 No_date   61:06   31.37  n/a     .000
       [L/S/n= 1852./ .054/.035]
       {Vmax=  .469:Dmax= 1.351}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0050:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N5         40240.01   51.693 No_date   61:06   31.37  n/a     .000
                      +      1.0 02:SW_5         224.00    8.187 No_date   28:45   41.51  n/a     .000
                      +      1.0 02:FL_CK       4945.00   44.623 No_date   33:18   38.37  n/a     .000
                   SUM=      1.0 01:S_N5       45409.01   71.514 No_date   34:20   32.18  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0050:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N5       45409.01   71.514 No_date   34:20   32.18  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N5A        45409.01   71.311 No_date   34:15   32.18  n/a     .000
       [L/S/n=  556./ .090/.040]
       {Vmax=  .530:Dmax= 1.290}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0050:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N5A        45409.01   71.311 No_date   34:15   32.18  n/a     .000
                      +      1.0 02:SW_5A2        20.00     .943 No_date   28:35   45.60  n/a     .000
                      +      1.0 02:SW_5A1      1412.00    8.794 No_date   37:48   39.93  n/a     .000
                   SUM=      1.0 01:S_N5A      46841.01   79.247 No_date   34:46   32.42  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0050:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N5A      46841.01   79.247 No_date   34:46   32.42  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N4         46841.01   75.833 No_date   36:02   32.42  n/a     .000
       [L/S/n= 4630./ .043/.035]
       {Vmax=  .874:Dmax= 3.702}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0050:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N4         46841.01   75.833 No_date   36:02   32.42  n/a     .000
                      +      1.0 02:SW_4         585.00   12.896 No_date   29:55   45.60  n/a     .000
                      +      1.0 02:LM_CK       1021.00   17.059 No_date   30:46   44.77  n/a     .000
                   SUM=      1.0 01:S_N4       48447.00   84.908 No_date   35:20   32.84  n/a     .000
R0050:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:S_N4       48447.00   84.908 No_date   35:20   32.84  n/a     .000
       fname :S_N4.0050
       remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0050:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N4       48447.00   84.908 No_date   35:20   32.84  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N2         48447.00   84.582 No_date   35:30   32.84  n/a     .000
       [L/S/n= 1667./ .060/.040]
       {Vmax=  .909:Dmax= 3.749}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0050:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N2         48447.00   84.582 No_date   35:30   32.84  n/a     .000
                      +      1.0 02:SW_2         177.00    6.469 No_date   28:45   41.51  n/a     .000
                      +      1.0 02:SM_DR       1122.00   15.544 No_date   31:43   45.60  n/a     .000
                      +      1.0 02:MO_DR       2737.00   34.946 No_date   31:29   40.72  n/a     .000
                   SUM=      1.0 01:S_N2       52483.00  124.249 No_date   32:52   33.56  n/a     .000
R0050:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:S_N2       52483.00  124.249 No_date   32:52   33.56  n/a     .000
       fname :H_SN2
       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0050:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:S_N2       52483.00  124.249 No_date   32:52   33.56  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_416      52483.00  120.589 No_date   33:57   33.56  n/a     .000
       [L/S/n= 2327./ .050/.055]
       {Vmax=  .781:Dmax= 3.561}
#****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#****************************************************************************
R0050:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:SW_1a         536.42    6.175 No_date   31:15   35.39 .434    .000
       [CN= 72.0: N= 3.00: Tp= 2.79]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0050:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe     44.93    7.341 No_date   28:03   63.95 .785    .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_416      52483.00  120.589 No_date   33:57   33.56  n/a     .000
                      +      1.0 02:SW_1a        536.42    6.175 No_date   31:15   35.39  n/a     .000
                      +      1.0 02:S-1-Okeefe    44.93    7.341 No_date   28:03   63.95  n/a     .000
                   SUM=      1.0 01:SN_416     53064.36  125.441 No_date   33:19   33.60  n/a     .000
R0050:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_416     53064.36  125.441 No_date   33:19   33.60  n/a     .000
       fname :SN_416.0050
       remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0050:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:SN_416     53064.36  125.441 No_date   33:19   33.60  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_OK       53064.36  125.350 No_date   33:43   33.60  n/a     .000
       [L/S/n=  497./ .302/.055]
       {Vmax= 1.649:Dmax= 3.038}
#****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#****************************************************************************
R0050:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-1            63.72    1.147 No_date   28:58   26.31 .323    .000
       [CN= 61.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
R0050:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:O-1            63.72    1.147 No_date   28:58   26.31  n/a     .000
      [RDT= 1.00] out<-      1.0 01:O-1R           63.72    1.084 No_date   29:14   26.31  n/a     .000
       [L/S/n=  960./ .630/.043]
       {Vmax=  .880:Dmax=  .445}
R0050:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-2            28.61     .404 No_date   29:13   24.30 .298    .000
       [CN= 57.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
R0050:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-4            46.94     .531 No_date   29:00   18.55 .228    .000
       [CN= 49.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
       [InterEventTime=  12.00]
R0050:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:O-1R           63.72    1.084 No_date   29:14   26.31  n/a     .000
                      +      1.0 02:O-2            28.61     .404 No_date   29:13   24.30  n/a     .000
                      +      1.0 02:O-4            46.94     .531 No_date   29:00   18.55  n/a     .000
                   SUM=      1.0 01:OKF-N         139.27    2.005 No_date   29:11   23.28  n/a     .000
R0050:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:OKF-N         139.27    2.005 No_date   29:11   23.28  n/a     .000
      [RDT= 1.00] out<-      1.0 01:OKF-NR        139.27    2.004 No_date   29:13   23.28  n/a     .000
       [L/S/n=  210./ .810/.043]
       {Vmax= 1.081:Dmax=  .751}
R0050:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-6            16.46     .179 No_date   28:45   15.94 .196    .000
       [CN= 43.0: N= 3.00: Tp=  .70]
       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
       [InterEventTime=  12.00]
R0050:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:O-3            39.67    1.212 No_date   28:22   28.54 .350    .000
       [XIMP=.15:TIMP=.30]
       [LOSS= 2 :CN= 50.0]
       [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 99.77: SMAX=665.12: SK= .010]
R0050:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:O-5            60.63    3.085 No_date   28:10   32.89 .403    .000
       [XIMP=.13:TIMP=.26]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 64.50: SMAX=430.01: SK= .010]
R0050:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:OKF-NR        139.27    2.004 No_date   29:13   23.28  n/a     .000
                      +      1.0 02:O-3            39.67    1.212 No_date   28:22   28.54  n/a     .000
                      +      1.0 02:O-5            60.63    3.085 No_date   28:10   32.89  n/a     .000
                      +      1.0 02:O-6            16.46     .179 No_date   28:45   15.94  n/a     .000
                   SUM=      1.0 01:PT1           256.03    4.968 No_date   28:20   25.90  n/a     .000
R0050:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:O-7             5.28     .096 No_date   28:37   21.46 .263    .000
       [CN= 54.0: N= 3.00: Tp=  .60]
       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
       [InterEventTime=  12.00]
R0050:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:PT1           256.03    4.968 No_date   28:20   25.90  n/a     .000
                      +      1.0 02:O-7             5.28     .096 No_date   28:37   21.46  n/a     .000
                   SUM=      1.0 01:FF            261.31    5.051 No_date   28:20   25.81  n/a     .000
R0050:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:FF            261.31    5.051 No_date   28:20   25.81  n/a     .000
      [RDT= 1.00] out<-      1.0 01:DRAIN1        261.31    4.883 No_date   28:25   25.81  n/a     .000
       [L/S/n=  302./1.000/.043]
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        {Vmax=  .822:Dmax=  .759}
 R0050:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D1                1.17      .094 No_date   28:12   43.70 .536      .000
       [CN= 84.0: N= 3.00: Tp=  .28]
       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
       [InterEvent Time=  12.00]
 R0050:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A1                2.50      .517 No_date   28:01   64.42 .790      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A1                2.50      .517 No_date   28:01   64.42  n/a      .000
                 out  <=    1.0 01:A1-STR            2.50      .146 No_date   28:19   64.42  n/a      .000
            overflow <=     1.0 03:A1-OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.7243E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-2               .59      .103 No_date   28:00   50.67 .622      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-2               .59      .103 No_date   28:00   50.67  n/a      .000
                 out  <=    1.0 01:ST2STR             .59      .052 No_date   28:11   50.67  n/a      .000
            overflow <=     1.0 03:ST2OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.3952E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-8              60.55     1.383 No_date   29:04   33.66 .413      .000
       [CN= 69.0: N= 3.00: Tp= 1.00]
       [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
       [InterEvent Time=  12.00]
 R0050:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:O-8              60.55     1.383 No_date   29:04   33.66  n/a      .000
      [RDT= 1.00] out<-     1.0 01:O8PIPE           60.55     1.376 No_date   29:07   33.66  n/a      .000
       [L/S/n=  335./ .100/.013]
       {Vmax= 1.244:Dmax=  .617}
       {HGTH= 1.20:WDTH= 1.80}
 R0050:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN1          261.31     4.883 No_date   28:25   25.81  n/a      .000
                      +     1.0 02:D1                1.17      .094 No_date   28:12   43.70  n/a      .000
                      +     1.0 02:A1-STR            2.50      .146 No_date   28:19   64.42  n/a      .000
                      +     1.0 02:A1-OVF             .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST2STR             .59      .052 No_date   28:11   50.67  n/a      .000
                      +     1.0 02:ST2OVF             .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:O8PIPE           60.55     1.376 No_date   29:07   33.66  n/a      .000
                   SUM=     1.0 01:ST2-IN          326.12     6.061 No_date   28:35   27.67  n/a      .000
 R0050:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A7                3.51      .704 No_date   28:01   64.42 .790      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A7                3.51      .704 No_date   28:01   64.42  n/a      .000
                 out  <=    1.0 01:A7-STR            3.51      .199 No_date   28:21   64.42  n/a      .000
            overflow <=     1.0 03:A7-OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.1019E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-3               .71      .123 No_date   28:00   50.67 .622      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-3               .71      .123 No_date   28:00   50.67  n/a      .000
                 out  <=    1.0 01:ST3STR             .71      .063 No_date   28:11   50.67  n/a      .000
            overflow <=     1.0 03:ST3OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.4527E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:ST2-IN          326.12     6.061 No_date   28:35   27.67  n/a      .000
                      +     1.0 02:A7-STR            3.51      .199 No_date   28:21   64.42  n/a      .000
                      +     1.0 02:A7-OVF             .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST3STR             .71      .063 No_date   28:11   50.67  n/a      .000
                      +     1.0 02:ST3OVF             .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT2ST3          330.34     6.299 No_date   28:33   28.11  n/a      .000
 R0050:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:PT2ST3          330.34     6.299 No_date   28:33   28.11  n/a      .000
      [RDT= 1.00] out<-     1.0 01:DRAIN2          330.34     5.789 No_date   28:58   28.11  n/a      .000
       [L/S/n=  592./ .230/.043]
       {Vmax=  .593:Dmax= 1.152}
 R0050:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D2                2.28      .074 No_date   29:02   43.70 .536      .000
       [CN= 84.0: N= 3.00: Tp=  .99]
       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
       [InterEvent Time=  12.00]
 R0050:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A17              12.04     2.163 No_date   28:03   64.42 .790      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A17              12.04     2.163 No_date   28:03   64.42  n/a      .000
                 out  <=    1.0 01:A17STR           12.04      .654 No_date   28:27   64.42  n/a      .000
            overflow <=     1.0 03:A17OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.3445E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-4               .35      .063 No_date   28:00   50.67 .622      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-4               .35      .063 No_date   28:00   50.67  n/a      .000
                 out  <=    1.0 01:ST4STR             .35      .031 No_date   28:10   50.67  n/a      .000
            overflow <=     1.0 03:ST4OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.2719E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A18               5.30     1.036 No_date   28:01   64.42 .790      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A18               5.30     1.036 No_date   28:01   64.42  n/a      .000
                 out  <=    1.0 01:A18STR            5.30      .300 No_date   28:22   64.42  n/a      .000
            overflow <=     1.0 03:A18OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.1532E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN2          330.34     5.789 No_date   28:58   28.11  n/a      .000
                      +     1.0 02:D2                2.28      .074 No_date   29:02   43.70  n/a      .000
                      +     1.0 02:A17STR           12.04      .654 No_date   28:27   64.42  n/a      .000
                      +     1.0 02:A17OVF             .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST4STR             .35      .031 No_date   28:10   50.67  n/a      .000
                      +     1.0 02:ST4OVF             .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:A18STR            5.30      .300 No_date   28:22   64.42  n/a      .000
                      +     1.0 02:A18OVF             .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT3ST4          350.31     6.632 No_date   28:55   30.03  n/a      .000
 R0050:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:PT3ST4          350.31     6.632 No_date   28:55   30.03  n/a      .000
      [RDT= 1.00] out<-     1.0 01:DRAIN3          350.31     6.350 No_date   29:11   30.03  n/a      .000
       [L/S/n=  525./ .230/.043]
       {Vmax=  .613:Dmax= 1.197}
 R0050:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D3                2.51      .113 No_date   28:43   47.27 .580      .000
       [CN= 86.0: N= 3.00: Tp=  .73]
       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
       [InterEvent Time=  12.00]
 R0050:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:C1                3.41      .690 No_date   28:01   64.42 .790      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:C1                3.41      .690 No_date   28:01   64.42  n/a      .000
                 out  <=    1.0 01:C1-STR            3.41      .194 No_date   28:20   64.42  n/a      .000
            overflow <=     1.0 03:C1-OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.9900E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-5               .45      .079 No_date   28:00   50.67 .622      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-5               .45      .079 No_date   28:00   50.67  n/a      .000
                 out  <=    1.0 01:ST5STR             .45      .040 No_date   28:10   50.67  n/a      .000
            overflow <=     1.0 03:ST5OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.3164E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN3          350.31     6.350 No_date   29:11   30.03  n/a      .000
                      +     1.0 02:D3                2.51      .113 No_date   28:43   47.27  n/a      .000
                      +     1.0 02:C1-STR            3.41      .194 No_date   28:20   64.42  n/a      .000
                      +     1.0 02:C1-OVF             .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST5STR             .45      .040 No_date   28:10   50.67  n/a      .000
                      +     1.0 02:ST5OVF             .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:ST5-E           356.68     6.575 No_date   29:09   30.51  n/a      .000
 R0050:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:STRAND            7.59     1.038 No_date   28:09   62.95 .772      .000
       [XIMP=.64:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:STRAND            7.59     1.038 No_date   28:09   62.95  n/a      .000
                 out  <=    1.0 01:S-POND            7.59      .137 No_date   29:13   62.95  n/a      .000
            overflow <=     1.0 03:S-OVF              .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.3159E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:ST5-E           356.68     6.575 No_date   29:09   30.51  n/a      .000
                      +     1.0 02:S-POND            7.59      .137 No_date   29:13   62.95  n/a      .000
                      +     1.0 02:S-OVF              .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:SSAOUT          364.27     6.711 No_date   29:09   31.19  n/a      .000
 R0050:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SSAOUT          364.27     6.711 No_date   29:09   31.19  n/a      .000
       fname :SSAOUT.0050
       remark:SSAOUT
 R0050:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Area-A           66.75     8.917 No_date   28:08   61.83 .759      .000
       [XIMP=.64:TIMP=.80]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:Area-A           66.75     8.917 No_date   28:08   61.83  n/a      .000
       fname :Area-A.0050
       remark:SMWF-A Inflow
 R0050:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Area-A           66.75     8.917 No_date   28:08   61.83  n/a      .000
                 out  <=    1.0 01:SWMF-A           66.75     1.070 No_date   29:16   61.83  n/a      .000
            overflow <=     1.0 03:SWMAOV             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.2845E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SWMF-A           66.75     1.070 No_date   29:16   61.83  n/a      .000
       fname :SWMF-A.0050
       remark:SMWF-A Outflow
 R0050:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:SSAOUT          364.27     6.711 No_date   29:09   31.19  n/a      .000
                      +     1.0 02:SWMF-A           66.75     1.070 No_date   29:16   61.83  n/a      .000
                      +     1.0 02:SWMAOV             .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT4ST5          431.02     7.776 No_date   29:10   35.93  n/a      .000
 R0050:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:C6                1.87      .395 No_date   28:01   64.42 .790      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:C6                1.87      .395 No_date   28:01   64.42  n/a      .000
                 out  <=    1.0 01:C6-STR            1.87      .110 No_date   28:18   64.42  n/a      .000
            overflow <=     1.0 03:C6-OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.5452E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:C7                1.62      .347 No_date   28:00   64.42 .790      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:C7                1.62      .347 No_date   28:00   64.42  n/a      .000
                 out  <=    1.0 01:C7-STR            1.62      .096 No_date   28:17   64.42  n/a      .000
            overflow <=     1.0 03:C7-OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.4698E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-6               .41      .073 No_date   28:00   50.67 .622      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-6               .41      .073 No_date   28:00   50.67  n/a      .000
                 out  <=    1.0 01:ST6STR             .41      .036 No_date   28:10   50.67  n/a      .000
            overflow <=     1.0 03:ST6OVF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.3103E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:PT4ST5          431.02     7.776 No_date   29:10   35.93  n/a      .000
                      +     1.0 02:C6-STR            1.87      .110 No_date   28:18   64.42  n/a      .000
                      +     1.0 02:C6-OVF             .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:C7-STR            1.62      .096 No_date   28:17   64.42  n/a      .000
                      +     1.0 02:C7-OVF             .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST6STR             .41      .036 No_date   28:10   50.67  n/a      .000
                      +     1.0 02:ST6OVF             .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT5ST6          434.92     7.904 No_date   29:09   36.17  n/a      .000
 R0050:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:PT5ST6          434.92     7.904 No_date   29:09   36.17  n/a      .000
      [RDT= 1.00] out<-     1.0 01:DRAIN4          434.92     7.615 No_date   29:20   36.17  n/a      .000
       [L/S/n=  324./ .100/.043]
       {Vmax=  .490:Dmax= 1.531}
 R0050:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D4                1.73      .097 No_date   28:34   50.14 .615      .000
       [CN= 88.0: N= 3.00: Tp=  .60]
       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
       [InterEvent Time=  12.00]
 R0050:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Area-B           24.04     4.418 No_date   28:02   60.51 .742      .000
       [XIMP=.62:TIMP=.77]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious      area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
 R0050:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Area-B           24.04     4.418 No_date   28:02   60.51  n/a      .000
                 out  <=    1.0 01:SWMF-B           24.04      .566 No_date   28:42   60.51  n/a      .000
            overflow <=     1.0 03:SWMBOVF            .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.8944E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN4          434.92     7.615 No_date   29:20   36.17  n/a      .000
                      +     1.0 02:D4                1.73      .097 No_date   28:34   50.14  n/a      .000
                      +     1.0 02:SWMF-B           24.04      .566 No_date   28:42   60.51  n/a      .000
                      +     1.0 02:SWMBOVF            .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:D4-EX           460.69     8.190 No_date   29:19   37.49  n/a      .000
 R0050:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:D4-EX           460.69     8.190 No_date   29:19   37.49  n/a      .000
      [RDT= 1.00] out<-     1.0 01:DRAIN5          460.69     8.038 No_date   29:27   37.49  n/a      .000
       [L/S/n=  413./ .160/.033]
       {Vmax=  .675:Dmax= 1.051}
 R0050:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D5                1.90      .089 No_date   28:40   47.27 .580      .000
       [CN= 86.0: N= 3.00: Tp=  .69]
       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
       [InterEvent Time=  12.00]
 R0050:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-13SDF           9.74      .578 No_date   28:21   44.42 .545      .000
       [CN= 81.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEvent Time=  12.00]
 R0050:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:O-13SDF           9.74      .578 No_date   28:21   44.42  n/a      .000
                 out  <=    1.0 01:SDF               9.74      .061 No_date   30:55   44.42  n/a      .000
            overflow <=     1.0 03:OVFSDF             .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.2427E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0050:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN5          460.69     8.038 No_date   29:27   37.49  n/a      .000
                      +     1.0 02:D5                1.90      .089 No_date   28:40   47.27  n/a      .000
                      +     1.0 02:SDF               9.74      .061 No_date   30:55   44.42  n/a      .000
                   SUM=     1.0 01:PT6MC           472.33     8.151 No_date   29:27   37.68  n/a      .000
 R0050:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-15             10.67      .800 No_date   28:13   43.28 .531      .000
       [CN= 82.0: N= 3.00: Tp=  .30]
       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
       [InterEvent Time=  12.00]
 R0050:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:PT6MC           472.33     8.151 No_date   29:27   37.68  n/a      .000
                      +     1.0 02:O-15             10.67      .800 No_date   28:13   43.28  n/a      .000
                   SUM=     1.0 01:M-C             483.00     8.281 No_date   29:26   37.80  n/a      .000
 R0050:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:M-C             483.00     8.281 No_date   29:26   37.80  n/a      .000
      [RDT= 1.00] out<-     1.0 01:O-14Ch          483.00     7.494 No_date   29:58   37.80  n/a      .000
       [L/S/n=  845./ .100/.033]
       {Vmax=  .549:Dmax= 1.780}
 R0050:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-14              5.00      .616 No_date   28:04   43.28 .531      .000
       [CN= 82.0: N= 3.00: Tp=  .13]
       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
       [InterEvent Time=  12.00]
 R0050:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:O-14Ch          483.00     7.494 No_date   29:58   37.80  n/a      .000
                      +     1.0 02:O-14              5.00      .616 No_date   28:04   43.28  n/a      .000
                   SUM=     1.0 01:OKEEFE          488.00     7.533 No_date   29:58   37.86  n/a      .000
 #***************************************************************************
 #    Okeefe Pond
 #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
 #      and a ratio of the catchment area to the West Clarke pond rating curve
 #      from the MSS for the next coordinates
 #***************************************************************************
 R0050:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D2           18.67     3.334 No_date   28:01   63.95 .785      .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
 R0050:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D3            6.79     1.304 No_date   28:00   63.95 .785      .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
 R0050:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_OK          53064.36   125.350 No_date   33:43   33.60  n/a      .000
                      +     1.0 02:OKEEFE          488.00     7.533 No_date   29:58   37.86  n/a      .000
                      +     1.0 02:S-1-D2           18.67     3.334 No_date   28:01   63.95  n/a      .000
                      +     1.0 02:S-1-D3            6.79     1.304 No_date   28:00   63.95  n/a      .000
                   SUM=     1.0 01:SN_OK         53577.82   128.036 No_date   33:19   33.65  n/a      .000
```

```
R0050:C00147-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_OK       53577.82  128.036 No_date   33:19   33.65  n/a     .000
      fname :SN_OK.0050
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0050:C00148-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_OK       53577.82  128.036 No_date   33:19   33.65  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_FO        53577.82  127.650 No_date   33:44   33.65  n/a     .000
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.239:Dmax= 3.374}
#*****************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#*****************************************************************************
R0050:C00149-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:FOSTER        325.44   32.213 No_date   28:11   58.69 .720     .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#*****************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
R0050:C00150-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:FOSTER        325.44   32.213 No_date   28:11   58.69  n/a     .000
                out <=     1.0 01:P_FOS         325.44    8.155 No_date   29:03   58.69  n/a     .000
           overflow <=     1.0 03:FO-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.7887E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00151-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:P_FOS         325.44    8.155 No_date   29:03   58.69  n/a     .000
                     +     1.0 02:FO-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:FOSTER-OUT    325.44    8.155 No_date   29:03   58.69  n/a     .000
#*****************************************************************************
R0050:C00152-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA     73.29   10.462 No_date   28:05   63.49 .779     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0050:C00153-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA     73.29   10.462 No_date   28:05   63.49  n/a     .000
                out <=     1.0 01:MS_P10         73.29    1.204 No_date   29:09   63.49  n/a     .000
           overflow <=     1.0 03:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1950E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00154-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-FO-D2       4.94     .796 No_date   28:01   58.69 .720     .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0050:C00155-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:FOSTER-OUT    325.44    8.155 No_date   29:03   58.69  n/a     .000
                     +     1.0 02:S-1-FO-D2       4.94     .796 No_date   28:01   58.69  n/a     .000
                  SUM=     1.0 01:980           330.38    8.232 No_date   29:01   58.69  n/a     .000
R0050:C00156-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:980           330.38    8.232 No_date   29:01   58.69  n/a     .000
      fname :980.0050
      remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0050:C00157-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:980           330.38    8.232 No_date   29:01   58.69  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:980-out       330.38    7.857 No_date   29:22   58.69  n/a     .000
      [L/S/n=  460./ .043/.035]
      {Vmax=  .593:Dmax= 1.601}
R0050:C00158-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-FO-D1       5.11     .927 No_date   28:00   63.41 .778     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0050:C00159-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:980-out       330.38    7.857 No_date   29:22   58.69  n/a     .000
                     +     1.0 02:S-1-FO-D1       5.11     .927 No_date   28:00   63.41  n/a     .000
                  SUM=     1.0 01:520           335.49    7.915 No_date   29:22   58.76  n/a     .000
R0050:C00160-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:520           335.49    7.915 No_date   29:22   58.76  n/a     .000
      fname :520.0050
      remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0050:C00161-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:520           335.49    7.915 No_date   29:22   58.76  n/a     .000
     [RDT= 1.00] out<-     1.0 01:520-out       335.49    7.880 No_date   29:26   58.76  n/a     .000
      [L/S/n=  860./ .587/.035]
      {Vmax= 1.532:Dmax=  .761}
R0050:C00162-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-FO-F-D     14.96    2.535 No_date   28:01   63.41 .778     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0050:C00163-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D8          5.27    1.052 No_date   28:01   46.77 .574     .000
      [XIMP=.32:TIMP=.65]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00164-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-A          75.88    3.042 No_date   28:36   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00165-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:W_CLAR_UND     35.65     .943 No_date   29:10   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00166-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_FO        53577.82  127.650 No_date   33:44   33.65  n/a     .000
                     +     1.0 02:520-out       335.49    7.880 No_date   29:26   58.76  n/a     .000
                     +     1.0 02:MS_P10         73.29    1.204 No_date   29:09   63.49  n/a     .000
                     +     1.0 02:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:W_CLAR_UND     35.65     .943 No_date   29:10   39.91  n/a     .000
                     +     1.0 02:S-1-FO-F-D     14.96    2.535 No_date   28:01   63.41  n/a     .000
                     +     1.0 02:S-1-D8          5.27    1.052 No_date   28:01   46.77  n/a     .000
                     +     1.0 02:S-1-A          75.88    3.042 No_date   28:36   39.91  n/a     .000
                  SUM=     1.0 01:SN_FO       54118.36  132.647 No_date   33:20   33.87  n/a     .000
R0050:C00167-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_FO       54118.36  132.647 No_date   33:20   33.87  n/a     .000
      fname :SN_FO.0050
      remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0050:C00168-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_FO       54118.36  132.647 No_date   33:20   33.87  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_CE        54118.36  132.435 No_date   33:45   33.87  n/a     .000
      [L/S/n=  159./ .082/.035]
      {Vmax= 1.441:Dmax= 4.166}
#*****************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#*****************************************************************************
R0050:C00169-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-B          55.36    2.770 No_date   28:23   39.91 .490     .000
      [CN= 77.0: N= 3.00: Tp=  .45]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0050:C00170-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D1         21.67    3.809 No_date   28:01   63.95 .785     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00171-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D4          3.28     .652 No_date   28:00   63.95 .785     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00172-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D5         12.84    2.360 No_date   28:01   63.95 .785     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00173-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D6          1.75     .357 No_date   28:00   63.95 .785     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00174-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D7          2.03     .411 No_date   28:00   63.95 .785     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#*****************************************************************************
R0050:C00175-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ       1.77     .319 No_date   28:00   59.44 .729     .000
      [XIMP=.46:TIMP=.59]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0050:C00176-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ       1.77     .319 No_date   28:00   59.44  n/a     .000
                out <=     1.0 01:W_CLAR_MJn      1.70     .213 No_date   27:53   59.44  n/a     .000
           overflow <=     1.0 03:W_CLAR_MJj       .08     .102 No_date   28:01   59.44  n/a     .000
     {MxStoUsed=.1125E-03  m3, TotOvfVol=.4485E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00177-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40   17.358 No_date   28:04   63.49 .779     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0050:C00178-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:W_CLAR_ALL    119.40   17.358 No_date   28:04   63.49  n/a     .000
                     +     1.0 02:W_CLAR_MJj       .08     .102 No_date   28:01   59.44  n/a     .000
                  SUM=     1.0 01:W_CLAR        119.47   17.371 No_date   28:04   63.49  n/a     .000
R0050:C00179-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:W_CLAR        119.47   17.371 No_date   28:04   63.49  n/a     .000
      fname :W_CLAR.0050
      remark:Total Flows to West Clarke
#*****************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*****************************************************************************
R0050:C00180-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR        119.47   17.371 No_date   28:04   63.49  n/a     .000
                out <=     1.0 01:MS_P2         119.47   10.246 No_date   28:16   63.49  n/a     .000
           overflow <=     1.0 03:P2-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3076E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#*****************************************************************************
R0050:C00181-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_CE        54118.36  132.435 No_date   33:45   33.87  n/a     .000
                     +     1.0 02:S-1-D4          3.28     .652 No_date   28:00   63.95  n/a     .000
                     +     1.0 02:S-1-D5         12.84    2.360 No_date   28:01   63.95  n/a     .000
                     +     1.0 02:MS_P2         119.47   10.246 No_date   28:16   63.49  n/a     .000
                     +     1.0 02:P2-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:SN_CE       54253.95  133.341 No_date   33:45   33.95  n/a     .000
R0050:C00182-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_CE       54253.95  133.341 No_date   33:45   33.95  n/a     .000
      fname :SN_CE.0050
      remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0050:C00183-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_CE       54253.95  133.341 No_date   33:45   33.95  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:5737        54253.95  125.432 No_date   35:56   33.95  n/a     .000
      [L/S/n=  270./ .018/.035]
      {Vmax=  .825:Dmax= 5.266}
R0050:C00184-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:5737        54253.95  125.432 No_date   35:56   33.95  n/a     .000
                     +     1.0 02:S-1-D1         21.67    3.809 No_date   28:01   63.95  n/a     .000
                     +     1.0 02:S-1-D6          1.75     .357 No_date   28:00   63.95  n/a     .000
                     +     1.0 02:S-1-D7          2.03     .411 No_date   28:00   63.95  n/a     .000
                  SUM=     1.0 01:5002        54279.41  125.526 No_date   35:56   33.96  n/a     .000
R0050:C00185-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:5002        54279.41  125.526 No_date   35:56   33.96  n/a     .000
      fname :5002.0050
      remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0050:C00186-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:5002        54279.41  125.526 No_date   35:56   33.96  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_WCa       54279.41  125.506 No_date   36:03   33.96  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.264:Dmax= 2.962}
R0050:C00187-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCa       54279.41  125.506 No_date   36:03   33.96  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_WCb       54279.41  125.490 No_date   36:09   33.96  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.264:Dmax= 2.961}
R0050:C00188-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCb       54279.41  125.490 No_date   36:09   33.96  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_WC        54279.41  125.479 No_date   36:14   33.96  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.264:Dmax= 2.961}
#*****************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0050:C00189-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WC        54279.41  125.479 No_date   36:14   33.96  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_KB        54279.41  125.282 No_date   36:02   33.96  n/a     .000
      [L/S/n= 1020./ .050/.035]
      {Vmax= 1.122:Dmax= 3.740}
#*****************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#*****************************************************************************
#*****************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#*****************************************************************************
R0050:C00190-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82    4.812 No_date   28:10   33.07 .406     .000
      [XIMP=.10:TIMP=.40]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00191-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01A         40.82    4.812 No_date   28:10   33.07  n/a     .000
     Major System   /      1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-01A-MN      40.82    3.600 No_date   28:00   33.14  n/a     .000
       {MjSysSto=.1012E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00192-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:KB-01A-MN      40.82    3.600 No_date   28:00   33.14  n/a     .000
                  SUM=     1.0 01:KB-01A-S       40.82    3.600 No_date   28:00   33.14  n/a     .000
R0050:C00193-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10    3.541 No_date   28:07   36.47 .447     .000
      [XIMP=.19:TIMP=.38]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00194-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01B         31.10    3.541 No_date   28:07   36.47  n/a     .000
     Major System   /      1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-01B-MN      31.10    1.585 No_date   27:53   36.51  n/a     .000
       {MjSysSto=.2627E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00195-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:KB-01B-MN      31.10    1.585 No_date   27:53   36.51  n/a     .000
                  SUM=     1.0 01:KB-01B-S       31.10    1.585 No_date   27:53   36.51  n/a     .000
R0050:C00196-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78    2.163 No_date   28:04   37.72 .463     .000
      [XIMP=.20:TIMP=.41]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00197-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01C         13.78    2.163 No_date   28:04   37.72  n/a     .000
     Major System   /      1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-01C-MN      13.78    1.350 No_date   27:55   37.86  n/a     .000
       {MjSysSto=.5764E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00198-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:KB-01C-MN      13.78    1.350 No_date   27:55   37.86  n/a     .000
                  SUM=     1.0 01:KB-01C-S       13.78    1.350 No_date   27:55   37.86  n/a     .000
R0050:C00199-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-03          84.78   11.183 No_date   28:07   37.17 .456     .000
      [XIMP=.20:TIMP=.39]
```

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        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-03          84.78   11.183 No_date   28:07   37.17  n/a    .000
      Major System  /      1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:KB-03-MN       84.78    5.270 No_date   27:54   37.24  n/a    .000
        {MjSysSto=.6453E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:KB-03-MN       84.78    5.270 No_date   27:54   37.24  n/a    .000
                 SUM=      1.0 01:KB-03-S        84.78    5.270 No_date   27:54   37.24  n/a    .000
R0050:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-04           6.95    1.592 No_date   28:00   71.86 .882    .000
        [XIMP=.85:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-04           6.95    1.592 No_date   28:00   71.86  n/a    .000
      Major System  /      1.0 02:KB-04-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:KB-04-MN        6.95     .503 No_date   27:44   72.11  n/a    .000
        {MjSysSto=.9423E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-04-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:KB-04-MN        6.95     .503 No_date   27:44   72.11  n/a    .000
                 SUM=      1.0 01:KB-04-S         6.95     .503 No_date   27:44   72.11  n/a    .000
R0050:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-05           5.19    1.270 No_date   28:00   75.92 .931    .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-06          12.93    3.268 No_date   28:00   73.20 .898    .000
        [XIMP=.87:TIMP=.87]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-06          12.93    3.268 No_date   28:00   73.20  n/a    .000
      Major System  /      1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:KB-06-MN       12.93    2.262 No_date   27:52   73.67  n/a    .000
        {MjSysSto=.4323E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:KB-06-MN       12.93    2.262 No_date   27:52   73.67  n/a    .000
                 SUM=      1.0 01:KB-06-S        12.93    2.262 No_date   27:52   73.67  n/a    .000
R0050:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-11           4.03     .921 No_date   28:00   61.82 .758    .000
        [XIMP=.68:TIMP=.68]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-11           4.03     .921 No_date   28:00   61.82  n/a    .000
      Major System  /      1.0 02:KB-11-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:KB-11-MN        4.03     .577 No_date   27:52   62.10  n/a    .000
        {MjSysSto=.1581E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-11-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:KB-11-MN        4.03     .577 No_date   27:52   62.10  n/a    .000
                 SUM=      1.0 01:KB-11-S         4.03     .577 No_date   27:52   62.10  n/a    .000
R0050:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S1              4.99    1.304 No_date   28:00   75.92 .931    .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-15           2.15     .497 No_date   28:00   69.00 .847    .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01A-S       40.82    3.600 No_date   28:00   33.14  n/a    .000
                    +      1.0 02:KB-01B-S       31.10    1.585 No_date   27:53   36.51  n/a    .000
                    +      1.0 02:KB-01C-S       13.78    1.350 No_date   27:55   37.86  n/a    .000
                    +      1.0 02:KB-03-S        84.78    5.270 No_date   27:54   37.24  n/a    .000
                    +      1.0 02:KB-04-S         6.95     .503 No_date   27:44   72.11  n/a    .000
                    +      1.0 02:KB-05           5.19    1.270 No_date   28:00   75.92  n/a    .000
                    +      1.0 02:KB-06-S        12.93    2.262 No_date   27:52   73.67  n/a    .000
                    +      1.0 02:KB-11-S         4.03     .577 No_date   27:52   62.10  n/a    .000
                    +      1.0 02:KB-15           2.15     .497 No_date   28:00   69.00  n/a    .000
                    +      1.0 02:S1              4.99    1.304 No_date   28:00   75.92  n/a    .000
                 SUM=      1.0 01:KB-P1         206.72   18.218 No_date   28:00   42.53  n/a    .000
R0050:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P1         206.72   18.218 No_date   28:00   42.53  n/a    .000
                out <=     1.0 01:KB-P1R        198.38   12.438 No_date   28:02   42.53  n/a    .000
           overflow <=     1.0 03:KB-P1ovf        8.34    5.573 No_date   28:02   42.53  n/a    .000
       {MxStoUsed=.7313E+00  m3, TotOvfVol=.3545E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0050:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P1R        198.38   12.438 No_date   28:02   42.53  n/a    .000
                    +      1.0 02:KB-P1ovf        8.34    5.573 No_date   28:02   42.53  n/a    .000
                 SUM=      1.0 01:KB-Pond1      206.72   18.011 No_date   28:02   42.53  n/a    .000
R0050:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond1      206.72   18.011 No_date   28:02   42.53  n/a    .000
        fname :KB-Pond1.0050
        remark:Total Flows at KB first pond
R0050:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-07          10.86    2.656 No_date   28:00   72.58 .890    .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-07          10.86    2.656 No_date   28:00   72.58  n/a    .000
      Major System  /      1.0 02:KB-07-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:KB-07-MN       10.86    2.094 No_date   28:08   72.95  n/a    .000
        {MjSysSto=.1950E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-07-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:KB-07-MN       10.86    2.094 No_date   28:08   72.95  n/a    .000
                 SUM=      1.0 01:KB-07-S        10.86    2.094 No_date   28:08   72.95  n/a    .000
R0050:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-08           6.61    1.444 No_date   28:00   59.78 .733    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-08           6.61    1.444 No_date   28:00   59.78  n/a    .000
      Major System  /      1.0 02:KB-08-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:KB-08-MN        6.61    1.058 No_date   27:53   60.05  n/a    .000
        {MjSysSto=.1439E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-08-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:KB-08-MN        6.61    1.058 No_date   27:53   60.05  n/a    .000
                 SUM=      1.0 01:KB-08-S         6.61    1.058 No_date   27:53   60.05  n/a    .000
R0050:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-09           2.60     .665 No_date   28:00   71.90 .882    .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_1         2.37     .607 No_date   28:00   71.90 .882    .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_2         1.14     .295 No_date   28:00   71.90 .882    .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-12           4.86    1.174 No_date   28:00   68.26 .837    .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-12           4.86    1.174 No_date   28:00   68.26  n/a    .000
      Major System  /      1.0 02:KB-12-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:KB-12-MN        4.86     .867 No_date   28:09   68.93  n/a    .000
        {MjSysSto=.1203E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-12-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:KB-12-MN        4.86     .867 No_date   28:09   68.93  n/a    .000
                 SUM=      1.0 01:KB-12-S         4.86     .867 No_date   28:09   68.93  n/a    .000
R0050:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-13          10.19    2.184 No_date   28:00   59.78 .733    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-13          10.19    2.184 No_date   28:00   59.78  n/a    .000
      Major System  /      1.0 02:KB-13-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:KB-13-MN       10.19    1.722 No_date   27:55   60.01  n/a    .000
        {MjSysSto=.1587E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-13-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:KB-13-MN       10.19    1.722 No_date   27:55   60.01  n/a    .000
                 SUM=      1.0 01:KB-13-S        10.19    1.722 No_date   27:55   60.01  n/a    .000
R0050:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-14           5.47    1.201 No_date   28:00   59.78 .733    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-14           5.47    1.201 No_date   28:00   59.78  n/a    .000
      Major System  /      1.0 02:KB-14-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:KB-14-MN        5.47     .873 No_date   27:53   60.02  n/a    .000
        {MjSysSto=.1239E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-14-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:KB-14-MN        5.47     .873 No_date   27:53   60.02  n/a    .000
                 SUM=      1.0 01:KB-14-S         5.47     .873 No_date   27:53   60.02  n/a    .000
R0050:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_2         3.42     .724 No_date   28:01   64.30 .789    .000
        [XIMP=.71:TIMP=.71]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond1      206.72   18.011 No_date   28:02   42.53  n/a    .000
                    +      1.0 02:KB-07-S        10.86    2.094 No_date   28:08   72.95  n/a    .000
                    +      1.0 02:KB-08-S         6.61    1.058 No_date   27:53   60.05  n/a    .000
                    +      1.0 02:KB-09           2.60     .665 No_date   28:00   71.90  n/a    .000
                    +      1.0 02:KB-10_1         2.37     .607 No_date   28:00   71.90  n/a    .000
                    +      1.0 02:KB-10_2         1.14     .295 No_date   28:00   71.90  n/a    .000
                    +      1.0 02:KB-12-S         4.86     .867 No_date   28:09   68.93  n/a    .000
                    +      1.0 02:KB-13-S        10.19    1.722 No_date   27:55   60.01  n/a    .000
                    +      1.0 02:KB-14-S         5.47     .873 No_date   27:53   60.02  n/a    .000
                    +      1.0 02:KB-16_2         3.42     .724 No_date   28:01   64.30  n/a    .000
                 SUM=      1.0 01:KB-P2         254.24   26.339 No_date   28:02   46.87  n/a    .000
R0050:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P2         254.24   26.339 No_date   28:02   46.87  n/a    .000
                out <=     1.0 01:KB-P2R        253.10   17.634 No_date   28:09   46.87  n/a    .000
           overflow <=     1.0 03:KB-P2ovf        1.14    5.257 No_date   28:09   46.87  n/a    .000
       {MxStoUsed=.1109E+01  m3, TotOvfVol=.5351E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P2R        253.10   17.634 No_date   28:09   46.87  n/a    .000
                    +      1.0 02:KB-P2ovf        1.14    5.257 No_date   28:09   46.87  n/a    .000
                 SUM=      1.0 01:KB-Pond2      254.24   22.891 No_date   28:09   46.87  n/a    .000
R0050:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond2      254.24   22.891 No_date   28:09   46.87  n/a    .000
        fname :KB-Pond2.0050
        remark:Total Flows at KB second pond
R0050:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_1         2.80     .624 No_date   28:00   66.65 .818    .000
        [XIMP=.75:TIMP=.75]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond2      254.24   22.891 No_date   28:09   46.87  n/a    .000
                    +      1.0 02:KB-16_1         2.80     .624 No_date   28:00   66.65  n/a    .000
                 SUM=      1.0 01:KB-P3         257.04   23.147 No_date   28:09   47.08  n/a    .000
R0050:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P3         257.04   23.147 No_date   28:09   47.08  n/a    .000
                out <=     1.0 01:KB-P3R          9.40     .051 No_date   17:13   47.07  n/a    .000
           overflow <=     1.0 03:KB-P3ovf      247.64   22.286 No_date   28:10   47.08  n/a    .000
       {MxStoUsed=.1988E-02  m3, TotOvfVol=.1166E+02  m3, N-Ovf=    1, TotDurOvf=   23.hrs}
R0050:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P3R          9.40     .051 No_date   17:13   47.07  n/a    .000
                    +      1.0 02:KB-P3ovf      247.64   22.286 No_date   28:10   47.08  n/a    .000
                 SUM=      1.0 01:KB-Pond3      257.04   22.337 No_date   28:10   47.08  n/a    .000
R0050:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond3      257.04   22.337 No_date   28:10   47.08  n/a    .000
        fname :KB-Pond3.0050
        remark:Total Flows at KB third pond
#*****************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#     - TO FRASER-CLARKE DRAIN
#*****************************************************************************
R0050:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-01           8.03    1.483 No_date   28:01   49.52 .608    .000
        [XIMP=.47:TIMP=.47]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-01           8.03    1.483 No_date   28:01   49.52  n/a    .000
      Major System  /      1.0 02:FC-01-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:FC-01-MN        8.03     .756 No_date   28:32   49.91  n/a    .000
        {MjSysSto=.4662E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-01-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:FC-01-MN        8.03     .756 No_date   27:51   49.91  n/a    .000
                 SUM=      1.0 01:FC-01-S         8.03     .756 No_date   27:51   49.91  n/a    .000
R0050:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-02          16.05    3.831 No_date   28:00   75.92 .931    .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-02          16.05    3.831 No_date   28:00   75.92  n/a    .000
      Major System  /      1.0 02:FC-02-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:FC-02-MN       16.05    1.159 No_date   27:43   75.94  n/a    .000
        {MjSysSto=.2348E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-02-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:FC-02-MN       16.05    1.159 No_date   27:43   75.94  n/a    .000
                 SUM=      1.0 01:FC-02-S        16.05    1.159 No_date   27:43   75.94  n/a    .000
R0050:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-03           7.37    1.540 No_date   28:00   59.28 .727    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-03           7.37    1.540 No_date   28:00   59.28  n/a    .000
      Major System  /      1.0 02:FC-03-MJ         .02     .092 No_date   28:14   59.28  n/a    .000
      Minor System  \      1.0 03:FC-03-MN        7.35     .358 No_date   27:42   59.51  n/a    .000
        {MjSysSto=.1131E+04, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-03-MJ         .02     .092 No_date   28:14   59.28  n/a    .000
                    +      1.0 02:FC-03-MN        7.35     .358 No_date   27:42   59.51  n/a    .000
                 SUM=      1.0 01:FC-03-S         7.37     .450 No_date   28:14   59.51  n/a    .000
R0050:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-04          12.87    2.587 No_date   28:01   59.28 .727    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-04          12.87    2.587 No_date   28:01   59.28  n/a    .000
      Major System  /      1.0 02:FC-04-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:FC-04-MN       12.87     .741 No_date   27:44   59.54  n/a    .000
        {MjSysSto=.1729E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-04-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:FC-04-MN       12.87     .741 No_date   27:44   59.54  n/a    .000
                 SUM=      1.0 01:FC-04-S        12.87     .741 No_date   27:44   59.54  n/a    .000
#*****************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#     - TO JOCK RIVER
#*****************************************************************************
R0050:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-01           8.24    1.714 No_date   28:00   59.28 .727    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-01           8.24    1.714 No_date   28:00   59.28  n/a    .000
      Major System  /      1.0 02:JR-01-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:JR-01-MN        8.24     .563 No_date   28:59   59.48  n/a    .000
        {MjSysSto=.9643E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-01-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:JR-01-MN        8.24     .563 No_date   27:44   59.48  n/a    .000
                 SUM=      1.0 01:JR-01-S         8.24     .563 No_date   27:44   59.48  n/a    .000
R0050:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-02           1.59     .357 No_date   28:00   59.28 .727    .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-02           1.59     .357 No_date   28:00   59.28  n/a    .000
      Major System  /      1.0 02:JR-02-MJ         .00     .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:JR-02-MN        1.59     .153 No_date   27:45   59.66  n/a    .000
        {MjSysSto=.1319E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-02-MJ         .00     .000 No_date    0:00     .00  n/a    .000
                    +      1.0 02:JR-02-MN        1.59     .153 No_date   27:45   59.66  n/a    .000
                 SUM=      1.0 01:JR-02-S         1.59     .153 No_date   27:45   59.66  n/a    .000
#*****************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
```

```
#****************************************************************************
R0050:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:FRASER-DRN     13.65      .711 No_date   28:22    39.91 .490      .000
       [CN= 77.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0050:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FRASER-D       21.61     3.688 No_date   28:01    62.97 .773      .000
       [XIMP=.58:TIMP=.58]
       [LOSS= 2 :CN= 80.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 26.32: SMAX=175.50: SK= .010]
R0050:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FRASER-D       21.61     3.688 No_date   28:01    62.97  n/a      .000
      Major System  /       1.0 02:FRASER-J         .00      .000 No_date    0:00      .00  n/a      .000
      Minor System  \       1.0 03:FRASER-N       21.61     2.281 No_date   27:53    63.21  n/a      .000
       {MjSysSto=.7987E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FRASER-J         .00      .000 No_date    0:00      .00  n/a      .000
                    +       1.0 02:FRASER-N       21.61     2.281 No_date   27:53    63.21  n/a      .000
                 SUM=       1.0 01:FRASER-S       21.61     2.281 No_date   27:53    63.21  n/a      .000
R0050:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-Pond3      257.04    22.337 No_date   28:10    47.08  n/a      .000
                    +       1.0 02:S-1-B          55.36     2.770 No_date   28:23    39.91  n/a      .000
                    +       1.0 02:FRASER-DRN     13.65      .711 No_date   28:22    39.91  n/a      .000
                    +       1.0 02:FRASER-S       21.61     2.281 No_date   27:53    63.21  n/a      .000
                    +       1.0 02:N_KB        54279.41   125.282 No_date   36:02    33.96  n/a      .000
                    +       1.0 02:FC-01-S         8.03      .756 No_date   27:51    49.91  n/a      .000
                    +       1.0 02:FC-02-S        16.05     1.159 No_date   27:43    75.94  n/a      .000
                    +       1.0 02:FC-03-S         7.37      .450 No_date   28:14    59.51  n/a      .000
                 SUM=       1.0 01:4241        54658.52   126.092 No_date   36:02    34.06  n/a      .000
R0050:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:4241        54658.52   126.092 No_date   36:02    34.06  n/a      .000
       fname :4241.0050
       remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0050:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:4241        54658.52   126.092 No_date   36:02    34.06  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:4241-out    54658.52   126.088 No_date   36:02    34.06  n/a      .000
       [L/S/n=  294./ .109/.035]
       {Vmax= 1.329:Dmax= 2.424}
R0050:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:4241-out    54658.52   126.088 No_date   36:02    34.06  n/a      .000
                    +       1.0 02:FC-04-S        12.87      .741 No_date   27:44    59.54  n/a      .000
                    +       1.0 02:JR-01-S         8.24      .563 No_date   27:44    59.48  n/a      .000
                    +       1.0 02:JR-02-S         1.59      .153 No_date   27:45    59.66  n/a      .000
                 SUM=       1.0 01:SN_KB       54681.21   126.145 No_date   36:02    34.07  n/a      .000
R0050:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_KB       54681.21   126.145 No_date   36:02    34.07  n/a      .000
       fname :SN_KB.0050
       remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0050:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_KB       54681.21   126.145 No_date   36:02    34.07  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N_TO        54681.21   125.879 No_date   36:02    34.07  n/a      .000
       [L/S/n=  608./ .247/.035]
       {Vmax= 1.807:Dmax= 1.819}
#****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#****************************************************************************
R0050:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Greenbank      36.60     6.286 No_date   28:02    65.04 .798      .000
       [XIMP=.64:TIMP=.68]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Greenbank      36.60     6.286 No_date   28:02    65.04  n/a      .000
                out <=      1.0 01:GreenB_MN      36.60     4.176 No_date   28:09    65.04  n/a      .000
           overflow <=      1.0 03:GreenB_MJ        .00      .000 No_date    0:00      .00  n/a      .000
      {MxStoUsed=.9063E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_TO        54681.21   125.879 No_date   36:02    34.07  n/a      .000
                    +       1.0 02:GreenB_MJ        .00      .000 No_date    0:00      .00  n/a      .000
                    +       1.0 02:GreenB_MN      36.60     4.176 No_date   28:09    65.04  n/a      .000
                 SUM=       1.0 01:GreenB      54717.81   126.050 No_date   36:02    34.09  n/a      .000
R0050:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:GreenB      54717.81   126.050 No_date   36:02    34.09  n/a      .000
       fname :GreenB.0050
       remark:Total Flows at Greenbank Drain
#****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0050:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN2        2.10      .384 No_date   28:00    60.14 .738      .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN3         .12      .022 No_date   28:00    60.13 .738      .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MJ        30.23     4.894 No_date   28:02    61.85 .759      .000
       [XIMP=.52:TIMP=.64]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_ALL      112.91    15.270 No_date   28:04    59.95 .735      .000
       [XIMP=.52:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_P          3.06      .600 No_date   28:00    63.61 .780      .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0050:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MJ        30.23     4.894 No_date   28:02    61.85  n/a      .000
                out <=      1.0 01:TODD_MJn       28.89     3.314 No_date   27:54    61.87  n/a      .000
           overflow <=      1.0 03:TODD_MJj        1.34     1.567 No_date   28:02    61.85  n/a      .000
      {MxStoUsed=.1169E-02  m3, TotOvfVol=.8285E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0050:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN2        2.10      .384 No_date   28:00    60.14  n/a      .000
                out <=      1.0 01:TODD_MN2n       2.02      .268 No_date   27:53    60.14  n/a      .000
           overflow <=      1.0 03:TODD_MN2j        .08      .111 No_date   28:00    60.14  n/a      .000
      {MxStoUsed=.1643E-03  m3, TotOvfVol=.4631E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN3         .12      .022 No_date   28:00    60.13  n/a      .000
                out <=      1.0 01:TODD_MN3n        .11      .016 No_date   27:52    60.13  n/a      .000
           overflow <=      1.0 03:TODD_MN3j        .00      .006 No_date   28:00    60.13  n/a      .000
      {MxStoUsed=.8712E-04  m3, TotOvfVol=.2472E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A2             25.50     3.441 No_date   28:03    55.89 .686      .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A2             25.50     3.441 No_date   28:03    55.89  n/a      .000
      Major System  /       1.0 02:A2-MJ            .64     1.180 No_date   28:07    55.89  n/a      .000
      Minor System  \       1.0 03:A2-MN          24.86     1.818 No_date   28:39    56.08  n/a      .000
       {MjSysSto=.9240E+03, TotOvfVol=.3586E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:TODD_MN2n       2.02      .268 No_date   27:53    60.14  n/a      .000
                    +       1.0 02:TODD_MN3n        .11      .016 No_date   27:52    60.13  n/a      .000
                    +       1.0 02:TODD_MJj        1.34     1.567 No_date   28:02    61.85  n/a      .000
                    +       1.0 02:TODD_P          3.06      .600 No_date   28:00    63.61  n/a      .000
                    +       1.0 02:TODD_ALL      112.91    15.270 No_date   28:04    59.95  n/a      .000
                    +       1.0 02:W_CLAR_MJn      1.70      .213 No_date   27:53    59.44  n/a      .000
                 SUM=       1.0 01:TODD          121.14    17.643 No_date   28:03    60.06  n/a      .000
R0050:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:TODD          121.14    17.643 No_date   28:03    60.06  n/a      .000
       fname :TODD.0050
       remark:Total Flows at Todd Drain
#****************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#****************************************************************************
R0050:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD          121.14    17.643 No_date   28:03    60.06  n/a      .000
                out <=      1.0 01:MS_P3         121.14    12.815 No_date   28:10    60.05  n/a      .000
           overflow <=      1.0 03:P3-OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MxStoUsed=.2728E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:GreenB      54717.81   126.050 No_date   36:02    34.09  n/a      .000
                    +       1.0 02:MS_P3         121.14    12.815 No_date   28:10    60.05  n/a      .000
                    +       1.0 02:P3-OVF           .00      .000 No_date    0:00      .00  n/a      .000
                    +       1.0 02:TODD_MN2j        .08      .111 No_date   28:00    60.14  n/a      .000
                    +       1.0 02:A2-MJ            .64     1.180 No_date   28:07    55.89  n/a      .000
                 SUM=       1.0 01:SN_TO       54839.66   126.489 No_date   36:02    34.15  n/a      .000
R0050:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_TO       54839.66   126.489 No_date   36:02    34.15  n/a      .000
       fname :SN_TO.0050
       remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 %so the model will be more stable and g
R0050:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_TO       54839.66   126.489 No_date   36:02    34.15  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:N_TO        54839.66   126.325 No_date   36:29    34.15  n/a      .000
       [L/S/n=  280./ .050/.045]
       {Vmax=  .889:Dmax= 3.463}
R0050:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:N_TO        54839.66   126.325 No_date   36:29    34.15  n/a      .000
       fname :N_TO.0050
       remark:Total inflows at Station 2462
#****************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#****************************************************************************
R0050:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:corr1          15.87     2.851 No_date   28:01    63.61 .780      .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:corr1          15.87     2.851 No_date   28:01    63.61  n/a      .000
      Major System  /       1.0 02:corr1-MJ         .00      .000 No_date    0:00      .00  n/a      .000
      Minor System  \       1.0 03:corr1-MN       15.87     1.818 No_date   28:19    63.67  n/a      .000
       {MjSysSto=.5297E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:corr2          12.47      .330 No_date   29:10    39.91 .490      .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0050:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A1-Corrig      15.75     2.330 No_date   28:01    55.89 .686      .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A1-Corrig      15.75     2.330 No_date   28:01    55.89  n/a      .000
      Major System  /       1.0 02:A1-MJ            .00      .000 No_date    0:00      .00  n/a      .000
      Minor System  \       1.0 03:A1-MN          15.75     1.818 No_date   27:56    56.07  n/a      .000
       {MjSysSto=.1953E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:B1              2.77      .119 No_date   28:09    24.96 .306      .000
       [CN= 56.0: N= 3.00: Tp=  .23]
       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
       [InterEventTime=  12.00]
R0050:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A4              1.27      .239 No_date   28:00    63.95 .785      .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A4              1.27      .239 No_date   28:00    63.95  n/a      .000
      Major System  /       1.0 02:A4-MJ            .00      .000 No_date    0:00      .00  n/a      .000
      Minor System  \       1.0 03:A4-MN           1.27      .239 No_date   28:00    63.95  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A1-MJ            .00      .000 No_date    0:00      .00  n/a      .000
                    +       1.0 02:A1-MN          15.75     1.818 No_date   27:56    56.07  n/a      .000
                    +       1.0 02:corr1-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                    +       1.0 02:corr1-MN       15.87     1.818 No_date   28:19    63.67  n/a      .000
                    +       1.0 02:corr2          12.47      .330 No_date   29:10    39.91  n/a      .000
                    +       1.0 02:B1              2.77      .119 No_date   28:09    24.96  n/a      .000
                    +       1.0 02:A4-MN           1.27      .239 No_date   28:00    63.95  n/a      .000
                 SUM=       1.0 01:MH101          48.13     4.028 No_date   28:02    52.81  n/a      .000
R0050:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH101          48.13     4.028 No_date   28:02    52.81  n/a      .000
       fname :MH101.0050
       remark:Total Flows at MH101
R0050:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH101          48.13     4.028 No_date   28:02    52.81  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:101-102        48.13     4.005 No_date   28:03    52.81  n/a      .000
       [L/S/n=  368./ .540/.013]
       {Vmax= 3.143:Dmax= 1.119}
       [Din= 1.05:Dused= 1.36]
R0050:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A2-MN          24.86     1.818 No_date   28:39    56.08  n/a      .000
                    +       1.0 02:101-102        48.13     4.005 No_date   28:03    52.81  n/a      .000
                 SUM=       1.0 01:MH102          72.99     5.823 No_date   28:03    53.92  n/a      .000
R0050:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH102          72.99     5.823 No_date   28:03    53.92  n/a      .000
       fname :MH102.0050
       remark:Total Flows at MH102
R0050:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A5              1.60      .312 No_date   28:01    66.69 .818      .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A4-MJ            .00      .000 No_date    0:00      .00  n/a      .000
                    +       1.0 02:A5              1.60      .312 No_date   28:01    66.69  n/a      .000
                 SUM=       1.0 01:A5T             1.60      .312 No_date   28:01    66.69  n/a      .000
R0050:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A5T             1.60      .312 No_date   28:01    66.69  n/a      .000
      Major System  /       1.0 02:A5-MJ            .00      .000 No_date    0:00      .00  n/a      .000
      Minor System  \       1.0 03:A5-MN           1.60      .312 No_date   28:01    66.69  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH102          72.99     5.823 No_date   28:03    53.92  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:102-103        72.99     5.773 No_date   28:14    53.92  n/a      .000
       [L/S/n=  504./ .280/.013]
       {Vmax= 2.694:Dmax= 1.453}
       [Din= 1.50:Dused= 1.77]
R0050:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:102-103        72.99     5.773 No_date   28:14    53.92  n/a      .000
                    +       1.0 02:A5-MN           1.60      .312 No_date   28:01    66.69  n/a      .000
                 SUM=       1.0 01:MH103          74.59     5.961 No_date   28:03    54.19  n/a      .000
R0050:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH103          74.59     5.961 No_date   28:03    54.19  n/a      .000
       fname :MH103.0050
       remark:Total Flows at MH103
R0050:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH103          74.59     5.961 No_date   28:03    54.19  n/a      .000
      [RDT= 1.00] out<-     1.0 01:103-104        74.59     5.915 No_date   28:07    54.19  n/a      .000
       [L/S/n=  438./ .460/.013]
       {Vmax= 3.295:Dmax= 1.301}
       [Din= 1.65:Dused= 1.65]
R0050:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A6              1.56      .306 No_date   28:00    66.69 .818      .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A5-MJ            .00      .000 No_date    0:00      .00  n/a      .000
                    +       1.0 02:A6              1.56      .306 No_date   28:00    66.69  n/a      .000
                 SUM=       1.0 01:A6T             1.56      .306 No_date   28:00    66.69  n/a      .000
R0050:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A6T             1.56      .306 No_date   28:00    66.69  n/a      .000
      Major System  /       1.0 02:A6-MJ            .00      .000 No_date    0:00      .00  n/a      .000
      Minor System  \       1.0 03:A6-MN           1.56      .306 No_date   28:00    66.69  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A6-MN           1.56      .306 No_date   28:00    66.69  n/a      .000
                    +       1.0 02:103-104        74.59     5.915 No_date   28:07    54.19  n/a      .000
                    +       1.0 02:TODD_MJn       28.89     3.314 No_date   27:54    61.87  n/a      .000
                 SUM=       1.0 01:MH104         105.04     9.444 No_date   28:04    56.49  n/a      .000
R0050:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH104         105.04     9.444 No_date   28:04    56.49  n/a      .000
       fname :MH104.0050
       remark:Total Flows at MH104
R0050:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B2             12.31     1.758 No_date   28:02    56.26 .690      .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B2             12.31     1.758 No_date   28:02    56.26  n/a      .000
      Major System  /       1.0 02:B2-MJ            .00      .000 No_date    0:00      .00  n/a      .000
      Minor System  \       1.0 03:B2-MN          12.31     1.029 No_date   27:53    56.54  n/a      .000
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         {MJSysSto=.4799E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:B2-MN          12.31     1.029 No_date   27:53   56.54  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:315-333        12.31     1.029 No_date   28:33   56.54  n/a    .000
       [L/S/n=  254./ .100/.013]
       {Vmax= 1.220:Dmax=  .838}
       [Din= 1.20:Dused= 1.20}
R0050:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B3              5.59      .825 No_date   28:01   56.26 .690  .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B3              5.59      .825 No_date   28:01   56.26  n/a    .000
      Major System  /      1.0 02:B3-MJ            .02      .083 No_date   28:09   56.26  n/a    .000
      Minor System  \      1.0 03:B3-MN           5.57      .459 No_date   27:52   56.28  n/a    .000
         {MJSysSto=.2270E+03, TotOvfVol=.1279E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B3-MN           5.57      .459 No_date   27:52   56.28  n/a    .000
                       +   1.0 02:315-333        12.31     1.029 No_date   28:33   56.54  n/a    .000
                    SUM=   1.0 01:MH333          17.88     1.488 No_date   28:32   56.46  n/a    .000
R0050:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH333          17.88     1.488 No_date   28:32   56.46  n/a    .000
       fname :MH333.0050
       remark:Total Flows at MH333
R0050:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH333          17.88     1.488 No_date   28:32   56.46  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:333-335        17.88     1.479 No_date   28:19   56.46  n/a    .000
       [L/S/n=  251./ .100/.013]
       {Vmax= 1.302:Dmax= 1.057}
       [Din= 1.20:Dused= 1.29}
R0050:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:333-335        17.88     1.479 No_date   28:19   56.46  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:335-338        17.88     1.478 No_date   28:16   56.46  n/a    .000
       [L/S/n=  185./ .100/.013]
       {Vmax= 1.300:Dmax= 1.054}
       [Din= 1.20:Dused= 1.28}
R0050:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:335-338        17.88     1.478 No_date   28:16   56.46  n/a    .000
      [RDT= 1.00] out<-    1.0 01:338-340        17.88     1.454 No_date   28:18   56.46  n/a    .000
       [L/S/n=  233./ .100/.013]
       {Vmax= 1.330:Dmax=  .979}
       [Din= 1.35:Dused= 1.35}
R0050:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B4              7.60     1.094 No_date   28:02   56.26 .690  .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B4              7.60     1.094 No_date   28:02   56.26  n/a    .000
      Major System  /      1.0 02:B4-MJ            .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:B4-MN           7.60      .655 No_date   27:53   56.27  n/a    .000
         {MJSysSto=.2780E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:338-340        17.88     1.454 No_date   28:18   56.46  n/a    .000
                       +   1.0 02:B4-MN           7.60      .655 No_date   27:53   56.27  n/a    .000
                    SUM=   1.0 01:MH340          25.48     2.109 No_date   28:18   56.41  n/a    .000
R0050:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH340          25.48     2.109 No_date   28:18   56.41  n/a    .000
       fname :MH340.0050
       remark:Total Flows at MH340
R0050:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH340          25.48     2.109 No_date   28:18   56.41  n/a    .000
      [RDT= 1.00] out<-    1.0 01:340-104        25.48     2.090 No_date   28:18   56.41  n/a    .000
       [L/S/n=  240./ .150/.013]
       {Vmax= 1.723:Dmax=  .918}
       [Din= 1.65:Dused= 1.65}
R0050:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:340-104        25.48     2.090 No_date   28:18   56.41  n/a    .000
                       +   1.0 02:MH104         105.04     9.444 No_date   28:04   56.49  n/a    .000
                    SUM=   1.0 01:MH104T        130.52    11.391 No_date   28:07   56.48  n/a    .000
R0050:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH104T        130.52    11.391 No_date   28:07   56.48  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:104-105       130.52    11.118 No_date   28:10   56.48  n/a    .000
       [L/S/n=  380./ .100/.013]
       {Vmax= 2.107:Dmax= 2.003}
       {HGTH= 2.36:WDTH= 2.70}
R0050:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B5              2.20      .390 No_date   28:00   60.29 .740  .000
       [XIMP=.57:TIMP=.57]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B5              2.20      .390 No_date   28:00   60.29  n/a    .000
      Major System  /      1.0 02:B5-MJ            .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:B5-MN           2.20      .260 No_date   27:53   60.60  n/a    .000
         {MJSysSto=.5913E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A8               .96      .198 No_date   28:00   66.69 .818  .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A6-MJ            .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:A8               .96      .198 No_date   28:00   66.69  n/a    .000
                    SUM=   1.0 01:A8T              .96      .198 No_date   28:00   66.69  n/a    .000
R0050:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A8T              .96      .198 No_date   28:00   66.69  n/a    .000
      Major System  /      1.0 02:A8-MJ            .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:A8-MN            .96      .198 No_date   28:00   66.69  n/a    .000
         {MJSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:104-105       130.52    11.118 No_date   28:10   56.48  n/a    .000
                       +   1.0 02:B5-MN           2.20      .260 No_date   27:53   60.60  n/a    .000
                       +   1.0 02:A8-MN            .96      .198 No_date   28:00   66.69  n/a    .000
                       +   1.0 02:TODD_MN3j        .00      .006 No_date   28:00   60.13  n/a    .000
                    SUM=   1.0 01:MH105         133.68    11.441 No_date   28:10   56.62  n/a    .000
R0050:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH105         133.68    11.441 No_date   28:10   56.62  n/a    .000
       fname :MH105.0050
       remark:Total Flows at MH105
R0050:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *   DIVERT HYD      ->    1.0 01:A8-MJ            .00      .000 No_date    0:00     .00  n/a    .000
            diverted <=    1.0 02:A8-MJ-JR         .00      .000 No_date    0:00     .00  n/a    .000
            diverted <=    1.0 03:A8-MJ-B6         .00      .000 No_date    0:00     .00  n/a    .000
R0050:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     DIVERT HYD      ->    1.0 01:MH105         133.68    11.441 No_date   28:10   56.62  n/a    .000
            diverted <=    1.0 02:MH105-JR       35.42     8.432 No_date   28:10   56.62  n/a    .000
            diverted <=    1.0 03:MH105-B6       98.26     3.009 No_date   28:10   56.62  n/a    .000
R0050:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B7              7.19     1.124 No_date   28:01   56.26 .690  .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B4-MJ            .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:B7              7.19     1.124 No_date   28:01   56.26  n/a    .000
                    SUM=   1.0 01:B7-B4MJ         7.19     1.124 No_date   28:01   56.26  n/a    .000
R0050:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B7-B4MJ         7.19     1.124 No_date   28:01   56.26  n/a    .000
      Major System  /      1.0 02:B7R-MJ           .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:B7R-MN          7.19      .629 No_date   27:51   56.37  n/a    .000
         {MJSysSto=.2888E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:B7R-MN          7.19      .629 No_date   27:51   56.37  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:360-106A        7.19      .629 No_date   28:28   56.37  n/a    .000
       [L/S/n=  167./ .100/.013]
       {Vmax= 1.089:Dmax=  .665}
       [Din= 1.05:Dused= 1.05}
R0050:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B6              3.29      .535 No_date   28:00   56.26 .690  .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B6              3.29      .535 No_date   28:00   56.26  n/a    .000
      Major System  /      1.0 02:B6-MJ            .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:B6-MN           3.29      .064 No_date   27:33   56.32  n/a    .000
         {MJSysSto=.6238E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:EX-LAND        32.50     4.637 No_date   28:02   56.33 .691  .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0050:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:EX-LAND        32.50     4.637 No_date   28:02   56.33  n/a    .000
      Major System  /      1.0 02:EX-LAND-MJ       .76     1.533 No_date   28:06   56.33  n/a    .000
      Minor System  \      1.0 03:EX-LAND-MN     31.74     2.275 No_date   27:49   56.55  n/a    .000
         {MJSysSto=.1365E+04, TotOvfVol=.4274E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B7R-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:EX-LAND-MJ       .76     1.533 No_date   28:06   56.33  n/a    .000
                       +   1.0 02:B5-MJ            .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:B6-MJ            .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:B6-MN           3.29      .064 No_date   27:33   56.32  n/a    .000
                       +   1.0 02:A8-MJ-B6         .00      .000 No_date    0:00     .00  n/a    .000
                    SUM=   1.0 01:B6-B7ExMJ       4.05     1.597 No_date   28:06   56.32  n/a    .000
R0050:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B6-B7ExMJ       4.05     1.597 No_date   28:06   56.32  n/a    .000
      Major System  /      1.0 02:B6R-MJ           .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:B6R-MN          4.05      .064 No_date   27:33   56.36  n/a    .000
         {MJSysSto=.4274E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH105-B6       98.26     3.009 No_date   28:10   56.62  n/a    .000
      [RDT= 1.00] out<-    1.0 01:105-106A       98.26     3.009 No_date   28:07   56.62  n/a    .000
       [L/S/n=  208./ .100/.013]
       {Vmax= 1.597:Dmax= 1.249}
       [Din= 1.80:Dused= 1.80}
R0050:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:360-106A        7.19      .629 No_date   28:28   56.37  n/a    .000
                       +   1.0 02:105-106A       98.26     3.009 No_date   28:07   56.62  n/a    .000
                       +   1.0 02:B6R-MN          4.05      .064 No_date   27:33   56.36  n/a    .000
                       +   1.0 02:B6R-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                    SUM=   1.0 01:MH106A        109.50     3.701 No_date   28:10   56.59  n/a    .000
R0050:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH106A        109.50     3.701 No_date   28:10   56.59  n/a    .000
       fname :MH106A.0050
       remark:Total Flows at MH106A
R0050:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH106A        109.50     3.701 No_date   28:10   56.59  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:106A-106      109.50     3.702 No_date   27:59   56.59  n/a    .000
       [L/S/n=  190./ .100/.013]
       {Vmax= 1.635:Dmax= 1.487}
       [Din= 1.80:Dused= 1.81}
R0050:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A9              2.44      .481 No_date   28:00   66.69 .818  .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A9              2.44      .481 No_date   28:00   66.69  n/a    .000
      Major System  /      1.0 02:A9-MJ            .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:A9-MN           2.44      .481 No_date   28:00   66.69  n/a    .000
R0050:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:106A-106      109.50     3.702 No_date   27:59   56.59  n/a    .000
                       +   1.0 02:A9-MN           2.44      .481 No_date   28:00   66.69  n/a    .000
                    SUM=   1.0 01:MH106         111.94     4.177 No_date   28:00   56.81  n/a    .000
R0050:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH106         111.94     4.177 No_date   28:00   56.81  n/a    .000
       fname :MH106.0050
       remark:Total Flows at MH106
R0050:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH106         111.94     4.177 No_date   28:00   56.81  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:106-107       111.94     4.129 No_date   28:00   56.81  n/a    .000
       [L/S/n=  123./ .100/.013]
       {Vmax= 1.685:Dmax= 1.556}
       [Din= 1.80:Dused= 1.90}
R0050:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A10             4.14      .602 No_date   28:01   53.20 .653  .000
       [XIMP=.35:TIMP=.47]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A10             4.14      .602 No_date   28:01   53.20  n/a    .000
      Major System  /      1.0 02:A10-MJ           .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:A10-MN          4.14      .310 No_date   27:50   53.25  n/a    .000
         {MJSysSto=.1897E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A11            10.61     1.720 No_date   28:02   60.69 .745  .000
       [XIMP=.53:TIMP=.62]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A11            10.61     1.720 No_date   28:02   60.69  n/a    .000
      Major System  /      1.0 02:A11-MJ           .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:A11-MN         10.61      .993 No_date   27:52   60.86  n/a    .000
         {MJSysSto=.4540E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:106-107       111.94     4.129 No_date   28:00   56.81  n/a    .000
                       +   1.0 02:A10-MN          4.14      .310 No_date   27:50   53.25  n/a    .000
                       +   1.0 02:A11-MN         10.61      .993 No_date   27:52   60.86  n/a    .000
                    SUM=   1.0 01:MH107         126.69     5.432 No_date   28:00   57.03  n/a    .000
R0050:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH107         126.69     5.432 No_date   28:00   57.03  n/a    .000
       fname :MH107.0050
       remark:Total Flows at MH107
R0050:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH107         126.69     5.432 No_date   28:00   57.03  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:107-119       126.69     5.345 No_date   28:00   57.03  n/a    .000
       [L/S/n=  114./ .120/.013]
       {Vmax= 1.927:Dmax= 1.660}
       [Din= 1.80:Dused= 2.02}
R0050:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:107-119       126.69     5.345 No_date   28:00   57.03  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:119-108       126.69     5.334 No_date   28:01   57.03  n/a    .000
       [L/S/n=   66./ .120/.013]
       {Vmax= 1.919:Dmax= 1.650}
       [Din= 1.80:Dused= 2.01}
R0050:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A12            12.29     1.938 No_date   28:01   56.26 .690  .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A12            12.29     1.938 No_date   28:01   56.26  n/a    .000
      Major System  /      1.0 02:A12-MJ           .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:A12-MN         12.29     1.029 No_date   27:50   56.44  n/a    .000
         {MJSysSto=.5545E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A13             2.59      .487 No_date   28:01   66.69 .818  .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A13             2.59      .487 No_date   28:01   66.69  n/a    .000
      Major System  /      1.0 02:A13-MJ           .00      .000 No_date    0:00     .00  n/a    .000
      Minor System  \      1.0 03:A13-MN          2.59      .487 No_date   28:01   66.69  n/a    .000
R0050:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Pond-Block      2.94      .430 No_date   28:00   53.21 .653  .000
       [XIMP=.41:TIMP=.41]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:119-108       126.69     5.334 No_date   28:01   57.03  n/a    .000
                       +   1.0 02:A13-MN          2.59      .487 No_date   28:01   66.69  n/a    .000
                       +   1.0 02:A12-MN         12.29     1.029 No_date   27:50   56.44  n/a    .000
                    SUM=   1.0 01:MH108         141.57     6.850 No_date   28:01   57.16  n/a    .000
R0050:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH108         141.57     6.850 No_date   28:01   57.16  n/a    .000
       fname :MH108.0050
       remark:Total Flows at MH108
R0050:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH108         141.57     6.850 No_date   28:01   57.16  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:108-116       141.57     6.810 No_date   28:02   57.16  n/a    .000
       [L/S/n=   77./ .130/.013]
       {Vmax= 2.104:Dmax= 1.784}
       [Din= 1.80:Dused= 2.17}
R0050:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:108-116       141.57     6.810 No_date   28:02   57.16  n/a    .000
 *    [RDT= 1.00] out<-    1.0 01:116-corrig    141.57     6.771 No_date   28:02   57.16  n/a    .000
       [L/S/n=   80./ .130/.013]
       {Vmax= 2.101:Dmax= 1.780}
       [Din= 1.80:Dused= 2.17}
R0050:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:116-corrig    141.57     6.771 No_date   28:02   57.16  n/a    .000
                       +   1.0 02:Pond-Block      2.94      .430 No_date   28:00   53.21  n/a    .000
                    SUM=   1.0 01:Corrigan      144.51     7.185 No_date   28:02   57.08  n/a    .000
R0050:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:Corrigan      144.51     7.185 No_date   28:02   57.08  n/a    .000
       fname :Corrigan.0050
       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0050:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Corrigan      144.51     7.185 No_date   28:02   57.08  n/a    .000
                 out <=    1.0 01:Co-P          144.51     6.335 No_date   28:26   57.08  n/a    .000
            overflow <=    1.0 03:Co-P-OVF         .00      .000 No_date    0:00     .00  n/a    .000
      {MxStoUsed=.1027E+01 m3, TotOvfVol=.0000E+00 m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:Co-P-OVF         .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:Co-P          144.51     6.335 No_date   28:26   57.08  n/a    .000
                       +   1.0 02:N_TO        54839.66   126.325 No_date   36:29   34.15  n/a    .000
                       +   1.0 02:MH105-JR       35.42     8.432 No_date   28:10   56.62  n/a    .000
                       +   1.0 02:A8-MJ-JR         .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:A9-MJ            .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:A10-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:A11-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:A12-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                       +   1.0 02:A13-MJ           .00      .000 No_date    0:00     .00  n/a    .000
                    SUM=   1.0 01:corrig      55019.59   126.926 No_date   36:27   34.22  n/a    .000
R0050:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:corrig      55019.59   126.926 No_date   36:27   34.22  n/a    .000
       fname :corrig.0050
       remark:Total Flows at Corrigan Pond
#*****************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
```

```
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#*****************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0050:C00387-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:corrig      55019.59  126.926 No_date   36:27   34.22  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_M         55019.59  126.908 No_date   36:31   34.22  n/a     .000
      [L/S/n=  580./ .445/.045]
      {Vmax= 2.065:Dmax= 1.981}
#*****************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#*****************************************************************************
R0050:C00388-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:MILLS         175.99   17.756 No_date   28:06   50.66 .622     .000
      [XIMP=.38:TIMP=.38]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#*****************************************************************************
R0050:C00389-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:MILLS         175.99   17.756 No_date   28:06   50.66  n/a     .000
                out <=    1.0 01:MILL_P        153.87    4.050 No_date   28:11   50.66  n/a     .000
           overflow <=    1.0 03:MIL-OV         22.12   12.440 No_date   28:11   50.66  n/a     .000
     {MxStoUsed=.2310E+01  m3, TotOvfVol=.1121E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0050:C00390-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_M         55019.59  126.908 No_date   36:31   34.22  n/a     .000
                    +     1.0 02:MIL-OV         22.12   12.440 No_date   28:11   50.66  n/a     .000
                    +     1.0 02:MILL_P        153.87    4.050 No_date   28:11   50.66  n/a     .000
                 SUM=     1.0 01:SN_M        55195.58  127.533 No_date   36:30   34.27  n/a     .000
R0050:C00391-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_M        55195.58  127.533 No_date   36:30   34.27  n/a     .000
      fname :SN_M.0050
      remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0050:C00392-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_M        55195.58  127.533 No_date   36:30   34.27  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N_DE        55195.58  127.235 No_date   36:43   34.27  n/a     .000
      [L/S/n= 1962./ .223/.045]
      {Vmax= 1.577:Dmax= 2.490}
#*****************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#*****************************************************************************
R0050:C00393-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:DESIRE         23.78    2.563 No_date   28:03   46.85 .575     .000
      [XIMP=.25:TIMP=.25]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
#*****************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#*****************************************************************************
R0050:C00394-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:JOCKVA        225.13   25.253 No_date   28:07   56.33 .691     .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0050:C00395-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EX-LAND-MN     31.74    2.275 No_date   27:49   56.55  n/a     .000
                    +     1.0 02:JOCKVA        225.13   25.253 No_date   28:07   56.33  n/a     .000
                    +     1.0 02:B2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:B3-MJ            .02     .083 No_date   28:09   56.26  n/a     .000
                 SUM=     1.0 01:JOCKVA-TO     256.89   27.528 No_date   28:07   56.36  n/a     .000
R0050:C00396-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:JOCKVA-TO     256.89   27.528 No_date   28:07   56.36  n/a     .000
      fname :JOCKVA-TO.0050
      remark:Total Flows at KB first pond
#*****************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#*****************************************************************************
R0050:C00397-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO     256.89   27.528 No_date   28:07   56.36  n/a     .000
                out <=    1.0 01:JOCK_P        256.89   10.991 No_date   28:38   56.36  n/a     .000
           overflow <=    1.0 03:JO-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5928E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00398-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_DE        55195.58  127.235 No_date   36:43   34.27  n/a     .000
                    +     1.0 02:DESIRE         23.78    2.563 No_date   28:03   46.85  n/a     .000
                    +     1.0 02:JO-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:JOCK_P        256.89   10.991 No_date   28:38   56.36  n/a     .000
                 SUM=     1.0 01:SN_DE       55476.26  128.174 No_date   36:42   34.38  n/a     .000
R0050:C00399-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_DE       55476.26  128.174 No_date   36:42   34.38  n/a     .000
      fname :SN_DE.0050
      remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0050:C00400-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_DE       55476.26  128.174 No_date   36:42   34.38  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N1          55476.26  128.160 No_date   36:45   34.38  n/a     .000
      [L/S/n=  563./ .967/.045]
      {Vmax= 2.123:Dmax= 1.248}
#*****************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#*****************************************************************************
R0050:C00401-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-2           102.94    4.795 No_date   28:20   35.39 .434     .000
      [CN= 72.0: N= 3.00: Tp=  .40]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEvent Time=  12.00]
R0050:C00402-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N1          55476.26  128.160 No_date   36:45   34.38  n/a     .000
                    +     1.0 02:S-2           102.94    4.795 No_date   28:20   35.39  n/a     .000
                 SUM=     1.0 01:SN_N1       55579.20  128.417 No_date   36:44   34.38  n/a     .000
R0050:C00403-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_N1       55579.20  128.417 No_date   36:44   34.38  n/a     .000
      fname :SN_N1.0050
      remark:Total Flows at Rideau River
#############################################################################
  ** END OF RUN :   99

*********************************************************************************************

 RUN#:COMMAND#
R0100:C00001---------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2   (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0100 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [M M]
#  Company       : JFSAinc.
#  License #     :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# -------------------------------------------------------------------------
R0100:C00002---------------------------------------------------------------------------
     READ STORM
      Filename = storm001
      Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
R0100:C00003---------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
R0100:C00004---------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
      ICASEdv = 1 (read and print data)
      FileTitle= File comment: [Based onvarious calibration exercises in Onta
              THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0100:C00005------------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax=119.84: APIavg= 69.19: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0100:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_HW        3680.00   21.616 No_date   36:52   35.18 .397     .000
      [CN= 64.0: N= 3.00: Tp= 7.13]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0100:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_13         971.00    8.203 No_date   32:33   32.84 .371     .000
      [CN= 61.0: N= 3.00: Tp= 3.76]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_GWM       3074.00   10.428 No_date   39:59   28.29 .319     .000
      [CN= 55.0: N= 3.00: Tp=11.33]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEvent Time=  12.00]
R0100:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_ASH       1781.00   19.695 No_date   32:38   42.49 .480     .000
      [CN= 72.0: N= 3.00: Tp= 3.91]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEvent Time=  12.00]
R0100:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_11         500.00   10.735 No_date   29:21   36.76 .415     .000
      [CN= 66.0: N= 3.00: Tp= 1.24]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NN_CK        1917.00   14.496 No_date   34:24   36.76 .415     .000
      [CN= 66.0: N= 3.00: Tp= 5.29]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0100:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_10        5666.00   37.663 No_date   37:48   42.49 .480     .000
      [CN= 72.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0100:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:KG_CK        8376.00   36.118 No_date   39:59   36.76 .415     .000
      [CN= 66.0: N= 3.00: Tp=11.66]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0100:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_9         1132.00   16.501 No_date   30:52   40.82 .461     .000
      [CN= 70.0: N= 3.00: Tp= 2.51]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0100:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NC_CK        4464.00   18.060 No_date   39:59   33.61 .380     .000
      [CN= 62.0: N= 3.00: Tp=11.32]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_8          131.00    3.259 No_date   28:57   34.39 .388     .000
      [CN= 63.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0100:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:HB_DR        3854.00   21.238 No_date   38:28   36.76 .415     .000
      [CN= 66.0: N= 3.00: Tp= 8.42]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0100:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_7         3197.00   16.421 No_date   36:21   29.79 .336     .000
      [CN= 57.0: N= 3.00: Tp= 6.65]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0100:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_6          165.00    1.511 No_date   33:01   37.57 .424     .000
      [CN= 67.0: N= 3.00: Tp= 4.18]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0100:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:VG_DR        1332.00   10.882 No_date   35:10   42.49 .480     .000
      [CN= 72.0: N= 3.00: Tp= 5.95]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEvent Time=  12.00]
R0100:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5          224.00    9.576 No_date   28:44   47.62 .538     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0100:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:FL_CK        4945.00   52.056 No_date   33:16   44.17 .499     .000
      [CN= 74.0: N= 3.00: Tp= 4.45]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEvent Time=  12.00]
R0100:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A2         20.00    1.097 No_date   28:35   52.06 .588     .000
      [CN= 81.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0100:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A1       1412.00   10.184 No_date   37:44   45.88 .518     .000
      [CN= 75.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEvent Time=  12.00]
R0100:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_4          585.00   14.953 No_date   29:55   52.06 .588     .000
      [CN= 81.0: N= 3.00: Tp= 1.75]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEvent Time=  12.00]
R0100:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:LM_CK        1021.00   19.782 No_date   30:45   51.16 .578     .000
      [CN= 80.0: N= 3.00: Tp= 2.46]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEvent Time=  12.00]
R0100:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_2          177.00    7.567 No_date   28:44   47.62 .538     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEvent Time=  12.00]
R0100:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_DR        1122.00   17.981 No_date   31:42   52.06 .588     .000
      [CN= 81.0: N= 3.00: Tp= 3.25]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEvent Time=  12.00]
R0100:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:MO_DR        2737.00   40.730 No_date   31:28   46.75 .528     .000
      [CN= 76.0: N= 3.00: Tp= 3.03]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEvent Time=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0100:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
```

```
    ADD HYD                  1.0 02:JR_HW       3680.00   21.616 No_date   36:52   35.18  n/a     .000
                        +    1.0 02:SW_13        971.00    8.203 No_date   32:33   32.84  n/a     .000
                     SUM=    1.0 01:S_N13       4651.00   27.660 No_date   35:21   34.69  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0100:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N13       4651.00   27.660 No_date   35:21   34.69  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N13A        4651.00   22.598 No_date   38:56   34.69  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .598:Dmax= 4.178}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0100:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N13A        4651.00   22.598 No_date   38:56   34.69  n/a     .000
                        +    1.0 02:JR_GWM      3074.00   10.428 No_date   39:59   28.29  n/a     .000
                     SUM=    1.0 01:SN13A       7725.00   32.845 No_date   39:44   32.14  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0100:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:SN13A       7725.00   32.845 No_date   39:44   32.14  n/a     .000
                 out <=  1.0 01:RES_GM      7725.00    3.950 No_date   62:26   32.14  n/a     .000
     {MxStoUsed=.1796E+03  m3}
#
R0100:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:RES_GM      7725.00    3.950 No_date   62:26   32.14  n/a     .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0100:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:RES_GM      7725.00    3.950 No_date   62:26   32.14  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N12         7725.00    3.947 No_date   64:43   32.14  n/a     .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .560:Dmax= 1.560}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0100:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N12         7725.00    3.947 No_date   64:43   32.14  n/a     .000
                        +    1.0 02:JR_ASH      1781.00   19.695 No_date   32:38   42.49  n/a     .000
                     SUM=    1.0 01:S_N12       9506.00   21.745 No_date   32:41   34.08  n/a     .000
R0100:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:S_N12       9506.00   21.745 No_date   32:41   34.08  n/a     .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0100:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N12       9506.00   21.745 No_date   32:41   34.08  n/a     .000
     [RDT= 1.00] out<-   1.0 01:Dum11       9506.00   21.522 No_date   32:57   34.08  n/a     .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .777:Dmax= 3.194}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0100:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:Dum11       9506.00   21.522 No_date   32:57   34.08  n/a     .000
                        +    1.0 02:SW_11        500.00   10.735 No_date   29:21   36.76  n/a     .000
                        +    1.0 02:NN_CK       1917.00   14.496 No_date   34:24   36.76  n/a     .000
                     SUM=    1.0 01:S_N11      11923.00   38.138 No_date   32:59   34.62  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0100:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N11      11923.00   38.138 No_date   32:59   34.62  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N10        11923.00   23.609 No_date   39:19   34.62  n/a     .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .486:Dmax= 1.492}
#
# Addition of Subwatershed 10 to Node 10
#
R0100:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N10        11923.00   23.609 No_date   39:19   34.62  n/a     .000
                        +    1.0 02:SW_10       5666.00   37.663 No_date   37:48   42.49  n/a     .000
                     SUM=    1.0 01:S_N10      17589.00   61.058 No_date   38:16   37.16  n/a     .000
R0100:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:S_N10      17589.00   61.058 No_date   38:16   37.16  n/a     .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0100:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:S_N10      17589.00   61.058 No_date   38:16   37.16  n/a     .000
                        +    1.0 02:KG_CK       8376.00   36.118 No_date   39:59   36.76  n/a     .000
                     SUM=    1.0 01:S_N10A     25965.00   96.054 No_date   39:40   37.03  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0100:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N10A     25965.00   96.054 No_date   39:40   37.03  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N9         25965.00   94.262 No_date   39:59   37.03  n/a     .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .775:Dmax= 2.151}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0100:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N9         25965.00   94.262 No_date   39:59   37.03  n/a     .000
                        +    1.0 02:SW_9        1132.00   16.501 No_date   30:52   40.83  n/a     .000
                        +    1.0 02:NC_CK       4464.00   18.060 No_date   39:59   33.61  n/a     .000
                     SUM=    1.0 01:S_N9       31561.00  115.681 No_date   39:59   36.68  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0100:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N9       31561.00  115.681 No_date   39:59   36.68  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N8         31561.00  109.395 No_date   39:59   36.68  n/a     .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .374:Dmax= 1.924}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0100:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N8         31561.00  109.395 No_date   39:59   36.68  n/a     .000
                        +    1.0 02:SW_8         131.00    3.259 No_date   28:57   34.39  n/a     .000
                        +    1.0 02:HB_DR       3854.00   21.238 No_date   38:28   36.76  n/a     .000
                     SUM=    1.0 01:S_N8       35546.00  130.593 No_date   39:59   36.68  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0100:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N8       35546.00  130.593 No_date   39:59   36.68  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N7         35546.00  111.942 No_date   44:52   36.68  n/a     .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .237:Dmax= 2.412}
#
# Addition of Subwatershed 7 to Node 7
#
R0100:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N7         35546.00  111.942 No_date   44:52   36.68  n/a     .000
                        +    1.0 02:SW_7        3197.00   16.421 No_date   36:21   29.79  n/a     .000
                     SUM=    1.0 01:S_N7       38743.00  120.740 No_date   43:36   36.11  n/a     .000
R0100:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:S_N7       38743.00  120.740 No_date   43:36   36.11  n/a     .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0100:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:S_N7       38743.00  120.740 No_date   43:36   36.11  n/a     .000
                 out <=  1.0 01:RES_RF     38743.00   62.351 No_date   58:25   36.11  n/a     .000
     {MxStoUsed=.5140E+03  m3}
R0100:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:RES_RF     38743.00   62.351 No_date   58:25   36.11  n/a     .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0100:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:RES_RF     38743.00   62.351 No_date   58:25   36.11  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N6         38743.00   62.067 No_date   59:46   36.11  n/a     .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .556:Dmax= 1.373}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0100:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N6         38743.00   62.067 No_date   59:46   36.11  n/a     .000
                        +    1.0 02:SW_6         165.00    1.511 No_date   33:01   37.57  n/a     .000
                        +    1.0 02:VG_DR       1332.00   10.882 No_date   35:10   42.49  n/a     .000
                     SUM=    1.0 01:S_N6       40240.01   62.114 No_date   59:39   36.33  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0100:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N6       40240.01   62.114 No_date   59:39   36.33  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N5         40240.01   61.991 No_date   60:21   36.33  n/a     .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .494:Dmax= 1.468}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0100:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N5         40240.01   61.991 No_date   60:21   36.33  n/a     .000
                        +    1.0 02:SW_5         224.00    9.576 No_date   28:44   47.62  n/a     .000
                        +    1.0 02:FL_CK       4945.00   52.056 No_date   33:16   44.17  n/a     .000
                     SUM=    1.0 01:S_N5       45409.01   80.898 No_date   34:11   37.24  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0100:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N5       45409.01   80.898 No_date   34:11   37.24  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N5A        45409.01   80.666 No_date   34:28   37.24  n/a     .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .546:Dmax= 1.353}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0100:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N5A        45409.01   80.666 No_date   34:28   37.24  n/a     .000
                        +    1.0 02:SW_5A2        20.00    1.097 No_date   28:35   52.06  n/a     .000
                        +    1.0 02:SW_5A1      1412.00   10.184 No_date   37:44   45.88  n/a     .000
                     SUM=    1.0 01:S_N5A      46841.01   89.756 No_date   34:38   37.51  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0100:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N5A      46841.01   89.756 No_date   34:38   37.51  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N4         46841.01   85.943 No_date   36:10   37.51  n/a     .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .904:Dmax= 3.866}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0100:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N4         46841.01   85.943 No_date   36:10   37.51  n/a     .000
                        +    1.0 02:SW_4         585.00   14.953 No_date   29:55   52.06  n/a     .000
                        +    1.0 02:LM_CK       1021.00   19.782 No_date   30:45   51.16  n/a     .000
                     SUM=    1.0 01:S_N4       48447.00   96.618 No_date   35:12   37.97  n/a     .000
R0100:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:S_N4       48447.00   96.618 No_date   35:12   37.97  n/a     .000
      fname :S_N4.0100
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0100:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N4       48447.00   96.618 No_date   35:12   37.97  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N2         48447.00   96.322 No_date   35:13   37.97  n/a     .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .944:Dmax= 3.929}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0100:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N2         48447.00   96.322 No_date   35:13   37.97  n/a     .000
                        +    1.0 02:SW_2         177.00    7.567 No_date   28:44   47.62  n/a     .000
                        +    1.0 02:SM_DR       1122.00   17.981 No_date   31:42   52.06  n/a     .000
                        +    1.0 02:MO_DR       2737.00   40.730 No_date   31:28   46.75  n/a     .000
                     SUM=    1.0 01:S_N2       52483.00  143.580 No_date   32:59   38.76  n/a     .000
R0100:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:S_N2       52483.00  143.580 No_date   32:59   38.76  n/a     .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#*****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0100:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N2       52483.00  143.580 No_date   32:59   38.76  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N_416      52483.00  139.298 No_date   33:45   38.76  n/a     .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .801:Dmax= 3.814}
#*****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#*****************************************************************************
R0100:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:SW_1a        536.42    7.274 No_date   31:14   40.95 .462     .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime= 12.00]
R0100:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-Okeefe     44.93    7.977 No_date   28:02   70.58 .797     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N_416      52483.00  139.298 No_date   33:45   38.76  n/a     .000
                        +    1.0 02:SW_1a        536.42    7.274 No_date   31:14   40.95  n/a     .000
                        +    1.0 02:S-1-Okeefe    44.93    7.977 No_date   28:02   70.58  n/a     .000
                     SUM=    1.0 01:SN_416     53064.36  144.978 No_date   33:31   38.81  n/a     .000
R0100:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:SN_416     53064.36  144.978 No_date   33:31   38.81  n/a     .000
      fname :SN_416.0100
      remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0100:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:SN_416     53064.36  144.978 No_date   33:31   38.81  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N_OK       53064.36  144.828 No_date   33:30   38.81  n/a     .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.728:Dmax= 3.267}
#*****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#*****************************************************************************
R0100:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-1           63.72    1.380 No_date   28:58   30.74 .347     .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime= 12.00]
R0100:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:O-1           63.72    1.380 No_date   28:58   30.74  n/a     .000
     [RDT= 1.00] out<-   1.0 01:O-1R          63.72    1.307 No_date   29:13   30.74  n/a     .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .926:Dmax=  .493}
R0100:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-2           28.61     .485 No_date   29:13   28.38 .320     .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime= 12.00]
R0100:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-4           46.94     .650 No_date   28:59   21.79 .246     .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime= 12.00]
R0100:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:O-1R          63.72    1.307 No_date   29:13   30.74  n/a     .000
                        +    1.0 02:O-2           28.61     .485 No_date   29:13   28.38  n/a     .000
                        +    1.0 02:O-4           46.94     .650 No_date   28:59   21.79  n/a     .000
                     SUM=    1.0 01:OKF-N        139.27    2.427 No_date   29:10   27.24  n/a     .000
R0100:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:OKF-N        139.27    2.427 No_date   29:10   27.24  n/a     .000
     [RDT= 1.00] out<-   1.0 01:OKF-NR       139.27    2.423 No_date   29:12   27.24  n/a     .000
      [L/S/n=  210./ .810/.043]
      {Vmax= 1.130:Dmax=  .796}
R0100:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-6           16.46     .220 No_date   28:45   18.67 .211     .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime= 12.00]
R0100:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:O-3           39.67    1.454 No_date   28:21   32.90 .371     .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0100:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:O-5           60.63    3.669 No_date   28:10   38.00 .429     .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0100:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:OKF-NR       139.27    2.423 No_date   29:12   27.24  n/a     .000
                        +    1.0 02:O-3           39.67    1.454 No_date   28:21   32.90  n/a     .000
                        +    1.0 02:O-5           60.63    3.669 No_date   28:10   38.00  n/a     .000
                        +    1.0 02:O-6           16.46     .220 No_date   28:45   18.67  n/a     .000
                     SUM=    1.0 01:PT1          256.03    5.938 No_date   28:19   30.11  n/a     .000
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R0100:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-7          5.28     .117 No_date   28:37   25.16 .284     .000
        [CN= 54.0: N= 3.00: Tp=  .60]
        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
        [InterEventTime=  12.00]
R0100:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT1        256.03    5.938 No_date   28:19   30.11  n/a     .000
                     +     1.0 02:O-7          5.28     .117 No_date   28:37   25.16  n/a     .000
                  SUM=     1.0 01:FF         261.31    6.036 No_date   28:19   30.01  n/a     .000
R0100:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:FF         261.31    6.036 No_date   28:19   30.01  n/a     .000
       [RDT= 1.00] out<-   1.0 01:DRAIN1     261.31    5.843 No_date   28:23   30.01  n/a     .000
        [L/S/n=  302./1.000/.043]
        {Vmax=  .853:Dmax=  .797}
R0100:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D1           1.17     .110 No_date   28:12   50.22 .567     .000
        [CN= 84.0: N= 3.00: Tp=  .28]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime=  12.00]
R0100:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A1           2.50     .572 No_date   28:01   70.42 .795     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A1           2.50     .572 No_date   28:01   70.42  n/a     .000
                out  <=    1.0 01:A1-STR       2.50     .173 No_date   28:17   70.42  n/a     .000
           overflow  <=    1.0 03:A1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7765E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-2          .59     .115 No_date   28:00   55.78 .630     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-2          .59     .115 No_date   28:00   55.78  n/a     .000
                out  <=    1.0 01:ST2STR        .59     .053 No_date   28:13   55.78  n/a     .000
           overflow  <=    1.0 03:ST2OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5215E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-8         60.55    1.639 No_date   29:04   38.99 .440     .000
        [CN= 69.0: N= 3.00: Tp= 1.00]
        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
        [InterEventTime=  12.00]
R0100:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:O-8         60.55    1.639 No_date   29:04   38.99  n/a     .000
       [RDT= 1.00] out<-   1.0 01:O8PIPE      60.55    1.631 No_date   29:07   38.99  n/a     .000
        [L/S/n=  335./ .100/.013]
        {Vmax= 1.305:Dmax=  .697}
        {HGTH= 1.20:WDTH= 1.80}
R0100:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN1     261.31    5.843 No_date   28:23   30.01  n/a     .000
                     +     1.0 02:D1           1.17     .110 No_date   28:12   50.22  n/a     .000
                     +     1.0 02:A1-STR       2.50     .173 No_date   28:17   70.42  n/a     .000
                     +     1.0 02:A1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST2STR        .59     .053 No_date   28:13   55.78  n/a     .000
                     +     1.0 02:ST2OVF        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:O8PIPE      60.55    1.631 No_date   29:07   38.99  n/a     .000
                  SUM=     1.0 01:ST2-IN     326.12    7.203 No_date   28:33   32.11  n/a     .000
R0100:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A7           3.51     .784 No_date   28:01   70.42 .795     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A7           3.51     .784 No_date   28:01   70.42  n/a     .000
                out  <=    1.0 01:A7-STR       3.51     .240 No_date   28:18   70.42  n/a     .000
           overflow  <=    1.0 03:A7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1088E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-3          .71     .138 No_date   28:00   55.78 .630     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-3          .71     .138 No_date   28:00   55.78  n/a     .000
                out  <=    1.0 01:ST3STR        .71     .064 No_date   28:13   55.78  n/a     .000
           overflow  <=    1.0 03:ST3OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.6043E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST2-IN     326.12    7.203 No_date   28:33   32.11  n/a     .000
                     +     1.0 02:A7-STR       3.51     .240 No_date   28:18   70.42  n/a     .000
                     +     1.0 02:A7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST3STR        .71     .064 No_date   28:13   55.78  n/a     .000
                     +     1.0 02:ST3OVF        .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT2ST3     330.34    7.487 No_date   28:31   32.57  n/a     .000
R0100:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:PT2ST3     330.34    7.487 No_date   28:31   32.57  n/a     .000
       [RDT= 1.00] out<-   1.0 01:DRAIN2     330.34    6.868 No_date   28:55   32.57  n/a     .000
        [L/S/n=  592./ .230/.043]
        {Vmax=  .611:Dmax= 1.215}
R0100:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D2           2.28     .087 No_date   29:02   50.22 .567     .000
        [CN= 84.0: N= 3.00: Tp=  .99]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime=  12.00]
R0100:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A17         12.04    2.382 No_date   28:03   70.42 .795     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A17         12.04    2.382 No_date   28:03   70.42  n/a     .000
                out  <=    1.0 01:A17STR      12.04     .801 No_date   28:24   70.42  n/a     .000
           overflow  <=    1.0 03:A17OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3671E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-4          .35     .069 No_date   28:00   55.78 .630     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-4          .35     .069 No_date   28:00   55.78  n/a     .000
                out  <=    1.0 01:ST4STR        .35     .032 No_date   28:13   55.78  n/a     .000
           overflow  <=    1.0 03:ST4OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3372E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A18          5.30    1.139 No_date   28:01   70.42 .795     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A18          5.30    1.139 No_date   28:01   70.42  n/a     .000
                out  <=    1.0 01:A18STR       5.30     .360 No_date   28:20   70.42  n/a     .000
           overflow  <=    1.0 03:A18OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1636E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN2     330.34    6.868 No_date   28:55   32.57  n/a     .000
                     +     1.0 02:D2           2.28     .087 No_date   29:02   50.22  n/a     .000
                     +     1.0 02:A17STR      12.04     .801 No_date   28:24   70.42  n/a     .000
                     +     1.0 02:A17OVF        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST4STR        .35     .032 No_date   28:13   55.78  n/a     .000
                     +     1.0 02:ST4OVF        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A18STR       5.30     .360 No_date   28:20   70.42  n/a     .000
                     +     1.0 02:A18OVF        .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT3ST4     350.31    7.785 No_date   28:52   34.58  n/a     .000
R0100:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:PT3ST4     350.31    7.785 No_date   28:52   34.58  n/a     .000
       [RDT= 1.00] out<-   1.0 01:DRAIN3     350.31    7.474 No_date   29:08   34.58  n/a     .000
        [L/S/n=  525./ .230/.043]
        {Vmax=  .628:Dmax= 1.257}
R0100:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D3           2.51     .132 No_date   28:43   54.04 .610     .000
        [CN= 86.0: N= 3.00: Tp=  .73]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0100:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C1           3.41     .763 No_date   28:01   70.42 .795     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C1           3.41     .763 No_date   28:01   70.42  n/a     .000
                out  <=    1.0 01:C1-STR       3.41     .232 No_date   28:18   70.42  n/a     .000
           overflow  <=    1.0 03:C1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1056E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-5          .45     .088 No_date   28:00   55.78 .630     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-5          .45     .088 No_date   28:00   55.78  n/a     .000
                out  <=    1.0 01:ST5STR        .45     .041 No_date   28:13   55.78  n/a     .000
           overflow  <=    1.0 03:ST5OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.4111E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN3     350.31    7.474 No_date   29:08   34.58  n/a     .000
                     +     1.0 02:D3           2.51     .132 No_date   28:43   54.04  n/a     .000
                     +     1.0 02:C1-STR       3.41     .232 No_date   28:18   70.42  n/a     .000
                     +     1.0 02:C1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST5STR        .45     .041 No_date   28:13   55.78  n/a     .000
                     +     1.0 02:ST5OVF        .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:ST5-E      356.68    7.731 No_date   29:07   35.08  n/a     .000
R0100:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:STRAND       7.59    1.163 No_date   28:08   68.85 .777     .000
        [XIMP=.64:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:STRAND       7.59    1.163 No_date   28:08   68.85  n/a     .000
                out  <=    1.0 01:S-POND       7.59     .200 No_date   29:01   68.85  n/a     .000
           overflow  <=    1.0 03:S-OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3382E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST5-E      356.68    7.731 No_date   29:07   35.08  n/a     .000
                     +     1.0 02:S-POND       7.59     .200 No_date   29:01   68.85  n/a     .000
                     +     1.0 02:S-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:SSAOUT     364.27    7.924 No_date   29:06   35.79  n/a     .000
R0100:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SSAOUT     364.27    7.924 No_date   29:06   35.79  n/a     .000
        fname :SSAOUT.0100
        remark:SSAOUT
R0100:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Area-A      66.75    9.945 No_date   28:08   67.64 .764     .000
        [XIMP=.64:TIMP=.80]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:Area-A      66.75    9.945 No_date   28:08   67.64  n/a     .000
        fname :Area-A.0100
        remark:SMWF-A Inflow
R0100:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Area-A      66.75    9.945 No_date   28:08   67.64  n/a     .000
                out  <=    1.0 01:SWMF-A      66.75    1.357 No_date   29:10   67.64  n/a     .000
           overflow  <=    1.0 03:SWMAOV        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3051E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SWMF-A      66.75    1.357 No_date   29:10   67.64  n/a     .000
        fname :SWMF-A.0100
        remark:SMWF-A Outflow
R0100:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:SSAOUT     364.27    7.924 No_date   29:06   35.79  n/a     .000
                     +     1.0 02:SWMF-A      66.75    1.357 No_date   29:10   67.64  n/a     .000
                     +     1.0 02:SWMAOV        .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT4ST5     431.02    9.279 No_date   29:07   40.72  n/a     .000
R0100:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C6           1.87     .433 No_date   28:01   70.42 .795     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C6           1.87     .433 No_date   28:01   70.42  n/a     .000
                out  <=    1.0 01:C6-STR       1.87     .129 No_date   28:16   70.42  n/a     .000
           overflow  <=    1.0 03:C6-OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5845E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C7           1.62     .381 No_date   28:00   70.42 .795     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C7           1.62     .381 No_date   28:00   70.42  n/a     .000
                out  <=    1.0 01:C7-STR       1.62     .112 No_date   28:16   70.42  n/a     .000
           overflow  <=    1.0 03:C7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5036E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-6          .41     .081 No_date   28:00   55.78 .630     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-6          .41     .081 No_date   28:00   55.78  n/a     .000
                out  <=    1.0 01:ST6STR        .41     .037 No_date   28:13   55.78  n/a     .000
           overflow  <=    1.0 03:ST6OVF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3877E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT4ST5     431.02    9.279 No_date   29:07   40.72  n/a     .000
                     +     1.0 02:C6-STR       1.87     .129 No_date   28:16   70.42  n/a     .000
                     +     1.0 02:C6-OVF        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:C7-STR       1.62     .112 No_date   28:16   70.42  n/a     .000
                     +     1.0 02:C7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:ST6STR        .41     .037 No_date   28:13   55.78  n/a     .000
                     +     1.0 02:ST6OVF        .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:PT5ST6     434.92    9.426 No_date   29:06   40.97  n/a     .000
R0100:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:PT5ST6     434.92    9.426 No_date   29:06   40.97  n/a     .000
       [RDT= 1.00] out<-   1.0 01:DRAIN4     434.92    9.061 No_date   29:16   40.97  n/a     .000
        [L/S/n=  324./ .100/.043]
        {Vmax=  .507:Dmax= 1.619}
R0100:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D4           1.73     .112 No_date   28:33   57.07 .644     .000
        [CN= 88.0: N= 3.00: Tp=  .60]
        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
        [InterEventTime=  12.00]
R0100:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Area-B      24.04    4.871 No_date   28:02   66.17 .747     .000
        [XIMP=.62:TIMP=.77]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Area-B      24.04    4.871 No_date   28:02   66.17  n/a     .000
                out  <=    1.0 01:SWMF-B      24.04     .641 No_date   28:41   66.17  n/a     .000
           overflow  <=    1.0 03:SWMBOVF       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.9727E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN4     434.92    9.061 No_date   29:16   40.97  n/a     .000
                     +     1.0 02:D4           1.73     .112 No_date   28:33   57.07  n/a     .000
                     +     1.0 02:SWMF-B      24.04     .641 No_date   28:41   66.17  n/a     .000
                     +     1.0 02:SWMBOVF       .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:D4-EX      460.69    9.722 No_date   29:15   42.35  n/a     .000
R0100:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:D4-EX      460.69    9.722 No_date   29:15   42.35  n/a     .000
       [RDT= 1.00] out<-   1.0 01:DRAIN5     460.69    9.564 No_date   29:26   42.35  n/a     .000
        [L/S/n=  413./ .160/.033]
        {Vmax=  .703:Dmax= 1.106}
R0100:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D5           1.90     .104 No_date   28:40   54.04 .610     .000
        [CN= 86.0: N= 3.00: Tp=  .69]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0100:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-13SDF      9.74     .675 No_date   28:21   50.83 .574     .000
        [CN= 81.0: N= 3.00: Tp=  .43]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0100:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:O-13SDF      9.74     .675 No_date   28:21   50.83  n/a     .000
                out  <=    1.0 01:SDF          9.74     .070 No_date   30:50   50.83  n/a     .000
           overflow  <=    1.0 03:OVFSDF        .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2813E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN5     460.69    9.564 No_date   29:26   42.35  n/a     .000
                     +     1.0 02:D5           1.90     .104 No_date   28:40   54.04  n/a     .000
                     +     1.0 02:SDF          9.74     .070 No_date   30:50   50.83  n/a     .000
                  SUM=     1.0 01:PT6MC      472.33    9.694 No_date   29:26   42.57  n/a     .000
R0100:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-15        10.67     .940 No_date   28:13   49.72 .561     .000
        [CN= 82.0: N= 3.00: Tp=  .30]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime=  12.00]
R0100:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT6MC      472.33    9.694 No_date   29:26   42.57  n/a     .000
                     +     1.0 02:O-15        10.67     .940 No_date   28:13   49.72  n/a     .000
                  SUM=     1.0 01:MC         483.00    9.844 No_date   29:26   42.73  n/a     .000
R0100:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:MC         483.00    9.844 No_date   29:26   42.73  n/a     .000
       [RDT= 1.00] out<-   1.0 01:O-14Ch     483.00    8.880 No_date   29:52   42.73  n/a     .000
        [L/S/n=  845./ .100/.033]
        {Vmax=  .556:Dmax= 1.861}
R0100:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-14         5.00     .722 No_date   28:04   49.72 .561     .000
        [CN= 82.0: N= 3.00: Tp=  .13]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime=  12.00]
R0100:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:O-14Ch     483.00    8.880 No_date   29:52   42.73  n/a     .000
                     +     1.0 02:O-14         5.00     .722 No_date   28:04   49.72  n/a     .000
                  SUM=     1.0 01:OKEEFE     488.00    8.925 No_date   29:52   42.80  n/a     .000
#**************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#**************************************************************************
R0100:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D2      18.67    3.580 No_date   28:01   70.58 .797     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
```

```
    CONTINUOUS STANDHYD  1.0 01:S-1-D3          6.79    1.405 No_date   28:00   70.58 .797     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_OK       53064.36  144.828 No_date   33:30   38.81  n/a     .000
                     +     1.0 02:OKEEFE       488.00    8.925 No_date   29:52   42.80  n/a     .000
                     +     1.0 02:S-1-D2        18.67    3.580 No_date   28:01   70.58  n/a     .000
                     +     1.0 02:S-1-D3         6.79    1.405 No_date   28:00   70.58  n/a     .000
                  SUM=     1.0 01:SN_OK      53577.82  147.873 No_date   33:30   38.86  n/a     .000
R0100:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_OK      53577.82  147.873 No_date   33:30   38.86  n/a     .000
      fname :SN_OK.0100
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0100:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_OK      53577.82  147.873 No_date   33:30   38.86  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_FO       53577.82  147.535 No_date   33:30   38.86  n/a     .000
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.294:Dmax= 3.586}
#***************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#***************************************************************************
R0100:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:FOSTER        325.44   36.526 No_date   28:10   65.13 .735     .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#***************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#***************************************************************************
R0100:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:FOSTER      325.44   36.526 No_date   28:10   65.13  n/a     .000
                out <=     1.0 01:P_FOS       325.44    9.091 No_date   29:01   65.13  n/a     .000
           overflow <=     1.0 03:FO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.8792E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:P_FOS       325.44    9.091 No_date   29:01   65.13  n/a     .000
                     +     1.0 02:FO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:FOSTER-OUT  325.44    9.091 No_date   29:01   65.13  n/a     .000
#***************************************************************************
R0100:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:W_CLAR_BRA     73.29   11.683 No_date   28:05   70.23 .793     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0100:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA   73.29   11.683 No_date   28:05   70.23  n/a     .000
                out <=     1.0 01:MS_P10       73.29    1.240 No_date   29:12   70.23  n/a     .000
           overflow <=     1.0 03:P10-OVF        .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2223E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-FO-D2       4.94     .896 No_date   28:00   65.13 .735     .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0100:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:FOSTER-OUT  325.44    9.091 No_date   29:01   65.13  n/a     .000
                     +     1.0 02:S-1-FO-D2     4.94     .896 No_date   28:00   65.13  n/a     .000
                  SUM=     1.0 01:980         330.38    9.176 No_date   29:00   65.13  n/a     .000
R0100:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:980         330.38    9.176 No_date   29:00   65.13  n/a     .000
      fname :980.0100
      remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0100:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:980         330.38    9.176 No_date   29:00   65.13  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:980-out     330.38    8.694 No_date   29:39   65.13  n/a     .000
      [L/S/n=  460./ .043/.035]
      {Vmax=  .538:Dmax= 1.670}
R0100:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-FO-D1       5.11    1.040 No_date   28:00   69.99 .790     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0100:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:980-out     330.38    8.694 No_date   29:39   65.13  n/a     .000
                     +     1.0 02:S-1-FO-D1     5.11    1.040 No_date   28:00   69.99  n/a     .000
                  SUM=     1.0 01:520         335.49    8.749 No_date   29:17   65.20  n/a     .000
R0100:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:520         335.49    8.749 No_date   29:17   65.20  n/a     .000
      fname :520.0100
      remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0100:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:520         335.49    8.749 No_date   29:17   65.20  n/a     .000
     [RDT= 1.00] out<-     1.0 01:520-out     335.49    8.704 No_date   29:40   65.20  n/a     .000
      [L/S/n=  860./ .587/.035]
      {Vmax= 1.596:Dmax=  .801}
R0100:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-FO-F-D     14.96    2.819 No_date   28:01   69.99 .790     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0100:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-D8          5.27    1.181 No_date   28:01   51.48 .581     .000
      [XIMP=.32:TIMP=.65]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:S-1-A          75.88    3.578 No_date   28:36   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:W_CLAR_UND     35.65    1.108 No_date   29:10   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_FO       53577.82  147.535 No_date   33:30   38.86  n/a     .000
                     +     1.0 02:520-out      335.49    8.704 No_date   29:40   65.20  n/a     .000
                     +     1.0 02:MS_P10        73.29    1.240 No_date   29:12   70.23  n/a     .000
                     +     1.0 02:P10-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:W_CLAR_UND    35.65    1.108 No_date   29:10   45.95  n/a     .000
                     +     1.0 02:S-1-FO-F-D    14.96    2.819 No_date   28:01   69.99  n/a     .000
                     +     1.0 02:S-1-D8         5.27    1.181 No_date   28:01   51.48  n/a     .000
                     +     1.0 02:S-1-A         75.88    3.578 No_date   28:36   45.95  n/a     .000
                  SUM=     1.0 01:SN_FO      54118.36  153.186 No_date   33:05   39.09  n/a     .000
R0100:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_FO      54118.36  153.186 No_date   33:05   39.09  n/a     .000
      fname :SN_FO.0100
      remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0100:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_FO      54118.36  153.186 No_date   33:05   39.09  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_CE       54118.36  152.906 No_date   33:31   39.09  n/a     .000
      [L/S/n=  159./ .082/.035]
      {Vmax= 1.455:Dmax= 4.470}
#***************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#***************************************************************************
R0100:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:S-1-B          55.36    3.260 No_date   28:23   45.95 .519     .000
      [CN= 77.0: N= 3.00: Tp=  .45]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0100:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-D1         21.67    4.117 No_date   28:01   70.58 .797     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-D4          3.28     .705 No_date   28:00   70.58 .797     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-D5         12.84    2.544 No_date   28:01   70.58 .797     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-D6          1.75     .382 No_date   28:00   70.58 .797     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-D7          2.03     .442 No_date   28:00   70.58 .797     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#***************************************************************************
R0100:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:W_CLAR_MJ       1.77     .332 No_date   28:00   66.20 .747     .000
      [XIMP=.46:TIMP=.59]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0100:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ     1.77     .332 No_date   28:00   66.20  n/a     .000
                out <=     1.0 01:W_CLAR_MJn    1.69     .213 No_date   27:52   66.22  n/a     .000
           overflow <=     1.0 03:W_CLAR_MJj     .08     .115 No_date   28:01   66.20  n/a     .000
     {MxStoUsed=.1530E-03  m3, TotOvfVol=.5337E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:W_CLAR_ALL    119.40   19.638 No_date   28:04   70.23 .793     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0100:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:W_CLAR_ALL  119.40   19.638 No_date   28:04   70.23  n/a     .000
                     +     1.0 02:W_CLAR_MJj     .08     .115 No_date   28:01   66.20  n/a     .000
                  SUM=     1.0 01:W_CLAR      119.48   19.657 No_date   28:04   70.22  n/a     .000
R0100:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:W_CLAR      119.48   19.657 No_date   28:04   70.22  n/a     .000
      fname :W_CLAR.0100
      remark:Total Flows to West Clarke
#***************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#***************************************************************************
R0100:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR      119.48   19.657 No_date   28:04   70.22  n/a     .000
                out <=     1.0 01:MS_P2       119.48   13.064 No_date   28:13   70.22  n/a     .000
           overflow <=     1.0 03:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3189E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#***************************************************************************
R0100:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_CE       54118.36  152.906 No_date   33:31   39.09  n/a     .000
                     +     1.0 02:S-1-D4         3.28     .705 No_date   28:00   70.58  n/a     .000
                     +     1.0 02:S-1-D5        12.84    2.544 No_date   28:01   70.58  n/a     .000
                     +     1.0 02:MS_P2        119.48   13.064 No_date   28:13   70.22  n/a     .000
                     +     1.0 02:P2-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:SN_CE      54253.96  153.868 No_date   33:31   39.17  n/a     .000
R0100:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_CE      54253.96  153.868 No_date   33:31   39.17  n/a     .000
      fname :SN_CE.0100
      remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0100:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_CE      54253.96  153.868 No_date   33:31   39.17  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:5737       54253.96  144.122 No_date   35:48   39.17  n/a     .000
      [L/S/n=  270./ .018/.035]
      {Vmax=  .871:Dmax= 5.567}
R0100:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:5737       54253.96  144.122 No_date   35:48   39.17  n/a     .000
                     +     1.0 02:S-1-D1        21.67    4.117 No_date   28:01   70.58  n/a     .000
                     +     1.0 02:S-1-D6         1.75     .382 No_date   28:00   70.58  n/a     .000
                     +     1.0 02:S-1-D7         2.03     .442 No_date   28:00   70.58  n/a     .000
                  SUM=     1.0 01:5002       54279.41  144.226 No_date   35:48   39.18  n/a     .000
R0100:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:5002       54279.41  144.226 No_date   35:48   39.18  n/a     .000
      fname :5002.0100
      remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0100:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:5002       54279.41  144.226 No_date   35:48   39.18  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_WCa      54279.41  144.212 No_date   35:53   39.19  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.317:Dmax= 3.143}
R0100:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCa      54279.41  144.212 No_date   35:53   39.19  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_WCb      54279.41  144.188 No_date   36:00   39.19  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.317:Dmax= 3.143}
R0100:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCb      54279.41  144.188 No_date   36:00   39.19  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_WC       54279.41  144.176 No_date   36:05   39.19  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.317:Dmax= 3.143}
#***************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0100:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WC       54279.41  144.176 No_date   36:05   39.19  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_KB       54279.41  143.629 No_date   36:32   39.19  n/a     .000
      [L/S/n= 1020./ .050/.035]
      {Vmax= 1.006:Dmax= 3.865}
#***************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#***************************************************************************
#***************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#***************************************************************************
R0100:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-01A         40.82    5.490 No_date   28:09   36.71 .415     .000
      [XIMP=.10:TIMP=.40]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01A        40.82    5.490 No_date   28:09   36.71  n/a     .000
     Major System   /      1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-01A-MN     40.82    3.600 No_date   28:44   36.91  n/a     .000
      {MjSysSto=.1774E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:KB-01A-MN     40.82    3.600 No_date   28:44   36.91  n/a     .000
                  SUM=     1.0 01:KB-01A-S      40.82    3.600 No_date   28:44   36.91  n/a     .000
R0100:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-01B         31.10    4.072 No_date   28:06   40.61 .458     .000
      [XIMP=.19:TIMP=.38]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01B        31.10    4.072 No_date   28:06   40.61  n/a     .000
     Major System   /      1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:KB-01B-MN     31.10    1.585 No_date   27:51   40.77  n/a     .000
      {MjSysSto=.3465E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:KB-01B-MN     31.10    1.585 No_date   27:51   40.77  n/a     .000
                  SUM=     1.0 01:KB-01B-S      31.10    1.585 No_date   27:51   40.77  n/a     .000
R0100:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:KB-01C         13.78    2.471 No_date   28:03   41.89 .473     .000
      [XIMP=.20:TIMP=.41]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
```

```
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-01C         13.78     2.471 No_date   28:03   41.89  n/a     .000
      Major System  /       1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-01C-MN      13.78     1.350 No_date   28:37   42.09  n/a     .000
        {MjSysSto=.8650E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-01C-MN      13.78     1.350 No_date   28:37   42.09  n/a     .000
                   SUM=     1.0 01:KB-01C-S       13.78     1.350 No_date   28:37   42.09  n/a     .000
R0100:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-03          84.78    12.777 No_date   28:07   41.33 .467     .000
        [XIMP=.20:TIMP=.39]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-03          84.78    12.777 No_date   28:07   41.33  n/a     .000
      Major System  /       1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-03-MN       84.78     5.270 No_date   29:11   41.33  n/a     .000
        {MjSysSto=.8591E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-03-MN       84.78     5.270 No_date   29:11   41.33  n/a     .000
                   SUM=     1.0 01:KB-03-S        84.78     5.270 No_date   29:11   41.33  n/a     .000
R0100:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-04           6.95     1.754 No_date   28:00   78.30 .884     .000
        [XIMP=.85:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-04           6.95     1.754 No_date   28:00   78.30  n/a     .000
      Major System  /       1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-04-MN        6.95      .503 No_date   27:43   78.64  n/a     .000
        {MjSysSto=.1121E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-04-MN        6.95      .503 No_date   27:43   78.64  n/a     .000
                   SUM=     1.0 01:KB-04-S         6.95      .503 No_date   27:43   78.64  n/a     .000
R0100:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-05           5.19     1.406 No_date   28:00   82.69 .934     .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-06          12.93     3.585 No_date   28:00   79.73 .900     .000
        [XIMP=.87:TIMP=.87]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-06          12.93     3.585 No_date   28:00   79.73  n/a     .000
      Major System  /       1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-06-MN       12.93     2.262 No_date   27:51   79.89  n/a     .000
        {MjSysSto=.6247E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-06-MN       12.93     2.262 No_date   27:51   79.89  n/a     .000
                   SUM=     1.0 01:KB-06-S        12.93     2.262 No_date   27:51   79.89  n/a     .000
R0100:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-11           4.03     1.012 No_date   28:00   67.54 .763     .000
        [XIMP=.68:TIMP=.68]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-11           4.03     1.012 No_date   28:00   67.54  n/a     .000
      Major System  /       1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-11-MN        4.03      .577 No_date   27:51   67.60  n/a     .000
        {MjSysSto=.2184E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-11-MN        4.03      .577 No_date   27:51   67.60  n/a     .000
                   SUM=     1.0 01:KB-11-S         4.03      .577 No_date   27:51   67.60  n/a     .000
R0100:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S1              4.99     1.426 No_date   28:00   82.69 .934     .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-15           2.15      .548 No_date   28:00   75.20 .849     .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-01A-S       40.82     3.600 No_date   28:44   36.91  n/a     .000
                      +     1.0 02:KB-01B-S       31.10     1.585 No_date   27:51   40.77  n/a     .000
                      +     1.0 02:KB-01C-S       13.78     1.350 No_date   28:37   42.09  n/a     .000
                      +     1.0 02:KB-03-S        84.78     5.270 No_date   29:11   41.33  n/a     .000
                      +     1.0 02:KB-04-S         6.95      .503 No_date   27:43   78.64  n/a     .000
                      +     1.0 02:KB-05           5.19     1.406 No_date   28:00   82.69  n/a     .000
                      +     1.0 02:KB-06-S        12.93     2.262 No_date   27:51   79.89  n/a     .000
                      +     1.0 02:KB-11-S         4.03      .577 No_date   27:51   67.60  n/a     .000
                      +     1.0 02:KB-15           2.15      .548 No_date   28:00   75.20  n/a     .000
                      +     1.0 02:S1              4.99     1.426 No_date   28:00   82.69  n/a     .000
                   SUM=     1.0 01:KB-P1         206.72    18.527 No_date   28:00   46.99  n/a     .000
R0100:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:KB-P1         206.72    18.527 No_date   28:00   46.99  n/a     .000
                  out <=    1.0 01:KB-P1R        196.58    12.438 No_date   28:00   46.99  n/a     .000
             overflow <=    1.0 03:KB-P1ovf       10.14     6.062 No_date   28:00   46.99  n/a     .000
       {MxStoUsed=.7330E+00  m3,  TotOvfVol=.4763E+00  m3,  N-Ovf=    2,  TotDurOvf=    1.hrs}
R0100:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-P1R        196.58    12.438 No_date   28:00   46.99  n/a     .000
                      +     1.0 02:KB-P1ovf       10.14     6.062 No_date   28:00   46.99  n/a     .000
                   SUM=     1.0 01:KB-Pond1      206.72    18.500 No_date   28:00   46.99  n/a     .000
R0100:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:KB-Pond1      206.72    18.500 No_date   28:00   46.99  n/a     .000
        fname :KB-Pond1.0100
        remark:Total Flows at KB first pond
R0100:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-07          10.86     2.908 No_date   28:00   79.06 .893     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-07          10.86     2.908 No_date   28:00   79.06  n/a     .000
      Major System  /       1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-07-MN       10.86     2.094 No_date   27:53   79.26  n/a     .000
        {MjSysSto=.3334E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-07-MN       10.86     2.094 No_date   27:53   79.26  n/a     .000
                   SUM=     1.0 01:KB-07-S        10.86     2.094 No_date   27:53   79.26  n/a     .000
R0100:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-08           6.61     1.609 No_date   28:00   65.36 .738     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-08           6.61     1.609 No_date   28:00   65.36  n/a     .000
      Major System  /       1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-08-MN        6.61     1.058 No_date   27:52   65.50  n/a     .000
        {MjSysSto=.2397E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-08-MN        6.61     1.058 No_date   27:52   65.50  n/a     .000
                   SUM=     1.0 01:KB-08-S         6.61     1.058 No_date   27:52   65.50  n/a     .000
R0100:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-09           2.60      .727 No_date   28:00   78.38 .885     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-10_1         2.37      .663 No_date   28:00   78.39 .885     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-10_2         1.14      .322 No_date   28:00   78.39 .885     .000
        [XIMP=.86:TIMP=.86]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-12           4.86     1.294 No_date   28:00   74.45 .841     .000
        [XIMP=.79:TIMP=.79]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-12           4.86     1.294 No_date   28:00   74.45  n/a     .000
      Major System  /       1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-12-MN        4.86      .867 No_date   28:11   74.79  n/a     .000
        {MjSysSto=.1873E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-12-MN        4.86      .867 No_date   28:11   74.79  n/a     .000
                   SUM=     1.0 01:KB-12-S         4.86      .867 No_date   28:11   74.79  n/a     .000
R0100:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-13          10.19     2.407 No_date   28:00   65.36 .738     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-13          10.19     2.407 No_date   28:00   65.36  n/a     .000
      Major System  /       1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-13-MN       10.19     1.722 No_date   27:54   65.63  n/a     .000
        {MjSysSto=.2806E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-13-MN       10.19     1.722 No_date   27:54   65.63  n/a     .000
                   SUM=     1.0 01:KB-13-S        10.19     1.722 No_date   27:54   65.63  n/a     .000
R0100:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-14           5.47     1.338 No_date   28:00   65.36 .738     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:KB-14           5.47     1.338 No_date   28:00   65.36  n/a     .000
      Major System  /       1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:KB-14-MN        5.47      .873 No_date   27:52   65.48  n/a     .000
        {MjSysSto=.2041E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:KB-14-MN        5.47      .873 No_date   27:52   65.48  n/a     .000
                   SUM=     1.0 01:KB-14-S         5.47      .873 No_date   27:52   65.48  n/a     .000
R0100:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-16_2         3.42      .803 No_date   28:01   70.16 .792     .000
        [XIMP=.71:TIMP=.71]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-Pond1      206.72    18.500 No_date   28:00   46.99  n/a     .000
                      +     1.0 02:KB-07-S        10.86     2.094 No_date   27:53   79.26  n/a     .000
                      +     1.0 02:KB-08-S         6.61     1.058 No_date   27:52   65.50  n/a     .000
                      +     1.0 02:KB-09           2.60      .727 No_date   28:00   78.38  n/a     .000
                      +     1.0 02:KB-10_1         2.37      .663 No_date   28:00   78.38  n/a     .000
                      +     1.0 02:KB-10_2         1.14      .322 No_date   28:00   78.39  n/a     .000
                      +     1.0 02:KB-12-S         4.86      .867 No_date   28:11   74.79  n/a     .000
                      +     1.0 02:KB-13-S        10.19     1.722 No_date   27:54   65.63  n/a     .000
                      +     1.0 02:KB-14-S         5.47      .873 No_date   27:52   65.48  n/a     .000
                      +     1.0 02:KB-16_2         3.42      .803 No_date   28:01   70.16  n/a     .000
                   SUM=     1.0 01:KB-P2         254.24    27.626 No_date   28:00   51.59  n/a     .000
R0100:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:KB-P2         254.24    27.626 No_date   28:00   51.59  n/a     .000
                  out <=    1.0 01:KB-P2R        249.74    17.634 No_date   28:06   51.59  n/a     .000
             overflow <=    1.0 03:KB-P2ovf        4.50     6.910 No_date   28:06   51.59  n/a     .000
       {MxStoUsed=.1110E+01  m3,  TotOvfVol=.2320E+00  m3,  N-Ovf=    2,  TotDurOvf=    0.hrs}
R0100:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-P2R        249.74    17.634 No_date   28:06   51.59  n/a     .000
                      +     1.0 02:KB-P2ovf        4.50     6.910 No_date   28:06   51.59  n/a     .000
                   SUM=     1.0 01:KB-Pond2      254.24    24.544 No_date   28:06   51.59  n/a     .000
R0100:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:KB-Pond2      254.24    24.544 No_date   28:06   51.59  n/a     .000
        fname :KB-Pond2.0100
        remark:Total Flows at KB second pond
R0100:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-16_1         2.80      .686 No_date   28:00   72.68 .821     .000
        [XIMP=.75:TIMP=.75]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-Pond2      254.24    24.544 No_date   28:06   51.59  n/a     .000
                      +     1.0 02:KB-16_1         2.80      .686 No_date   28:00   72.68  n/a     .000
                   SUM=     1.0 01:KB-P3         257.04    24.930 No_date   28:06   51.82  n/a     .000
R0100:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:KB-P3         257.04    24.930 No_date   28:06   51.82  n/a     .000
                  out <=    1.0 01:KB-P3R          8.56      .051 No_date   17:08   51.81  n/a     .000
             overflow <=    1.0 03:KB-P3ovf      248.48    24.659 No_date   28:07   51.82  n/a     .000
       {MxStoUsed=.1991E-02  m3,  TotOvfVol=.1288E+02  m3,  N-Ovf=    1,  TotDurOvf=   23.hrs}
R0100:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-P3R          8.56      .051 No_date   17:08   51.81  n/a     .000
                      +     1.0 02:KB-P3ovf      248.48    24.659 No_date   28:07   51.82  n/a     .000
                   SUM=     1.0 01:KB-Pond3      257.04    24.710 No_date   28:07   51.82  n/a     .000
R0100:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:KB-Pond3      257.04    24.710 No_date   28:07   51.82  n/a     .000
        fname :KB-Pond3.0100
        remark:Total Flows at KB third pond
#*******************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#*******************************************************************************
R0100:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FC-01           8.03     1.646 No_date   28:01   54.40 .614     .000
        [XIMP=.47:TIMP=.47]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-01           8.03     1.646 No_date   28:01   54.40  n/a     .000
      Major System  /       1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:FC-01-MN        8.03      .756 No_date   27:49   54.46  n/a     .000
        {MjSysSto=.6274E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:FC-01-MN        8.03      .756 No_date   27:49   54.46  n/a     .000
                   SUM=     1.0 01:FC-01-S         8.03      .756 No_date   27:49   54.46  n/a     .000
R0100:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FC-02          16.05     4.197 No_date   28:00   82.69 .934     .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-02          16.05     4.197 No_date   28:00   82.69  n/a     .000
      Major System  /       1.0 02:FC-02-MJ         .45     1.768 No_date   28:05   82.69  n/a     .000
      Minor System  \       1.0 03:FC-02-MN       15.60     1.159 No_date   27:43   82.88  n/a     .000
        {MjSysSto=.2385E+04,  TotOvfVol=.3716E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-02-MJ         .45     1.768 No_date   28:05   82.69  n/a     .000
                      +     1.0 02:FC-02-MN       15.60     1.159 No_date   27:43   82.88  n/a     .000
                   SUM=     1.0 01:FC-02-S        16.05     2.927 No_date   28:05   82.87  n/a     .000
R0100:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FC-03           7.37     1.717 No_date   28:00   64.86 .732     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-03           7.37     1.717 No_date   28:00   64.86  n/a     .000
      Major System  /       1.0 02:FC-03-MJ         .34      .661 No_date   28:06   64.86  n/a     .000
      Minor System  \       1.0 03:FC-03-MN        7.03      .358 No_date   27:41   64.90  n/a     .000
        {MjSysSto=.1131E+04,  TotOvfVol=.2188E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-03-MJ         .34      .661 No_date   28:06   64.86  n/a     .000
                      +     1.0 02:FC-03-MN        7.03      .358 No_date   27:41   64.90  n/a     .000
                   SUM=     1.0 01:FC-03-S         7.37     1.019 No_date   28:06   64.90  n/a     .000
R0100:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FC-04          12.87     2.884 No_date   28:01   64.86 .732     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-04          12.87     2.884 No_date   28:01   64.86  n/a     .000
      Major System  /       1.0 02:FC-04-MJ         .44      .978 No_date   28:07   64.86  n/a     .000
      Minor System  \       1.0 03:FC-04-MN       12.43      .741 No_date   27:43   65.10  n/a     .000
        {MjSysSto=.1794E+04,  TotOvfVol=.2828E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-04-MJ         .44      .978 No_date   28:07   64.86  n/a     .000
                      +     1.0 02:FC-04-MN       12.43      .741 No_date   27:43   65.10  n/a     .000
                   SUM=     1.0 01:FC-04-S        12.87     1.719 No_date   28:07   65.09  n/a     .000
#*******************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#*******************************************************************************
R0100:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:JR-01           8.24     1.891 No_date   28:00   64.86 .732     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:JR-01           8.24     1.891 No_date   28:00   64.86  n/a     .000
      Major System  /       1.0 02:JR-01-MJ         .20      .471 No_date   28:06   64.86  n/a     .000
      Minor System  \       1.0 03:JR-01-MN        8.04      .563 No_date   27:44   64.95  n/a     .000
        {MjSysSto=.1040E+04,  TotOvfVol=.1267E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:JR-01-MJ         .20      .471 No_date   28:06   64.86  n/a     .000
                      +     1.0 02:JR-01-MN        8.04      .563 No_date   27:44   64.95  n/a     .000
                   SUM=     1.0 01:JR-01-S         8.24     1.034 No_date   28:06   64.95  n/a     .000
R0100:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:JR-02           1.59      .393 No_date   28:00   64.86 .732     .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:JR-02           1.59      .393 No_date   28:00   64.85  n/a     .000
```

```
     Major System   /     1.0 02:JR-02-MJ          .02      .087 No_date   28:03   64.85  n/a      .000
     Minor System   \     1.0 03:JR-02-MN         1.57      .153 No_date   27:44   65.24  n/a      .000
      {MjSysSto=.1530E+03, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:JR-02-MJ          .02      .087 No_date   28:03   64.85  n/a      .000
                    +     1.0 02:JR-02-MN         1.57      .153 No_date   27:44   65.24  n/a      .000
                 SUM=     1.0 01:JR-02-S          1.59      .240 No_date   28:03   65.23  n/a      .000
#*****************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#*****************************************************************************
R0100:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:FRASER-DRN      13.65      .837 No_date   28:21   45.95 .519      .000
      [CN= 77.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FRASER-D        21.61     4.106 No_date   28:01   69.71 .787      .000
      [XIMP=.58:TIMP=.58]
      [LOSS= 2 :CN= 80.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 26.32: SMAX=175.50: SK= .010]
R0100:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FRASER-D        21.61     4.106 No_date   28:01   69.71  n/a      .000
     Major System   /     1.0 02:FRASER-J          .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \     1.0 03:FRASER-N        21.61     2.281 No_date   27:51   69.88  n/a      .000
      {MjSysSto=.1163E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FRASER-J          .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:FRASER-N        21.61     2.281 No_date   27:51   69.88  n/a      .000
                 SUM=     1.0 01:FRASER-S        21.61     2.281 No_date   27:51   69.88  n/a      .000
R0100:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-Pond3       257.04    24.710 No_date   28:07   51.82  n/a      .000
                    +     1.0 02:S-1-B           55.36     3.260 No_date   28:23   45.95  n/a      .000
                    +     1.0 02:FRASER-DRN      13.65      .837 No_date   28:21   45.95  n/a      .000
                    +     1.0 02:FRASER-S        21.61     2.281 No_date   27:51   69.88  n/a      .000
                    +     1.0 02:N_KB         54279.41   143.629 No_date   36:32   39.19  n/a      .000
                    +     1.0 02:FC-01-S          8.03      .756 No_date   27:49   54.46  n/a      .000
                    +     1.0 02:FC-02-S         16.05     2.927 No_date   28:05   82.87  n/a      .000
                    +     1.0 02:FC-03-S          7.37     1.019 No_date   28:06   64.90  n/a      .000
                 SUM=     1.0 01:4241         54658.52   144.306 No_date   36:29   39.28  n/a      .000
R0100:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:4241         54658.52   144.306 No_date   36:29   39.28  n/a      .000
      fname :4241.0100
      remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0100:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:4241         54658.52   144.306 No_date   36:29   39.28  n/a      .000
     [RDT= 1.00] out<-    1.0 01:4241-out     54658.52   144.351 No_date   36:25   39.28  n/a      .000
      [L/S/n=  294./ .109/.035]
      {Vmax= 1.395:Dmax= 2.595}
R0100:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:4241-out     54658.52   144.351 No_date   36:25   39.28  n/a      .000
                    +     1.0 02:FC-04-S         12.87     1.719 No_date   28:07   65.09  n/a      .000
                    +     1.0 02:JR-01-S          8.24     1.034 No_date   28:06   64.95  n/a      .000
                    +     1.0 02:JR-02-S          1.59      .240 No_date   28:03   65.23  n/a      .000
                 SUM=     1.0 01:SN_KB        54681.21   144.394 No_date   36:25   39.29  n/a      .000
R0100:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_KB        54681.21   144.394 No_date   36:25   39.29  n/a      .000
      fname :SN_KB.0100
      remark:HYD_COMMENT=["Total Flows before Station 3633]
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0100:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_KB        54681.21   144.394 No_date   36:25   39.29  n/a      .000
     [RDT= 1.00] out<-    1.0 01:N_TO         54681.21   144.359 No_date   36:30   39.29  n/a      .000
      [L/S/n=  608./ .247/.035]
      {Vmax= 1.905:Dmax= 1.942}
#*****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#*****************************************************************************
R0100:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:Greenbank       36.60     7.069 No_date   28:01   71.80 .811      .000
      [XIMP=.64:TIMP=.68]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:Greenbank       36.60     7.069 No_date   28:01   71.80  n/a      .000
               out <=     1.0 01:GreenB_MN       36.60     5.350 No_date   28:07   71.80  n/a      .000
          overflow <=     1.0 03:GreenB_MJ         .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.9351E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_TO         54681.21   144.359 No_date   36:30   39.29  n/a      .000
                    +     1.0 02:GreenB_MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:GreenB_MN       36.60     5.350 No_date   28:07   71.80  n/a      .000
                 SUM=     1.0 01:GreenB       54717.82   144.531 No_date   36:30   39.32  n/a      .000
R0100:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:GreenB       54717.82   144.531 No_date   36:30   39.32  n/a      .000
      fname :GreenB.0100
      remark:Total Flows at Greenbank Drain
#*****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#*****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0100:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_MN2         2.10      .428 No_date   28:00   66.78 .754      .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_MN3          .12      .025 No_date   28:00   66.78 .754      .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_MJ         30.23     5.210 No_date   28:02   68.65 .775      .000
      [XIMP=.52:TIMP=.64]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_ALL       112.91    17.286 No_date   28:04   66.60 .752      .000
      [XIMP=.52:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:TODD_P           3.06      .669 No_date   28:00   70.28 .794      .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0100:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:TODD_MJ         30.23     5.210 No_date   28:02   68.65  n/a      .000
               out <=     1.0 01:TODD_MJn        28.64     3.314 No_date   27:54   68.65  n/a      .000
          overflow <=     1.0 03:TODD_MJj         1.59     1.889 No_date   28:02   68.65  n/a      .000
     {MxStoUsed=.1512E-03  m3, TotOvfVol=.1094E+00  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0100:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:TODD_MN2         2.10      .428 No_date   28:00   66.78  n/a      .000
               out <=     1.0 01:TODD_MN2n        1.99      .268 No_date   27:52   66.78  n/a      .000
          overflow <=     1.0 03:TODD_MN2j         .11      .155 No_date   28:00   66.78  n/a      .000
     {MxStoUsed=.1204E-03  m3, TotOvfVol=.7282E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:TODD_MN3          .12      .025 No_date   28:00   66.78  n/a      .000
               out <=     1.0 01:TODD_MN3n         .11      .016 No_date   27:52   66.78  n/a      .000
          overflow <=     1.0 03:TODD_MN3j         .01      .009 No_date   28:00   66.78  n/a      .000
     {MxStoUsed=.9808E-04  m3, TotOvfVol=.3933E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A2              25.50     3.884 No_date   28:03   62.46 .705      .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A2              25.50     3.884 No_date   28:03   62.46  n/a      .000
     Major System   /     1.0 02:A2-MJ            1.43     2.026 No_date   28:04   62.46  n/a      .000
     Minor System   \     1.0 03:A2-MN           24.07     1.818 No_date   27:50   62.71  n/a      .000
      {MjSysSto=.9240E+03, TotOvfVol=.8908E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:TODD_MN2n        1.99      .268 No_date   27:52   66.78  n/a      .000
                    +     1.0 02:TODD_MN3n         .11      .016 No_date   27:52   66.78  n/a      .000
                    +     1.0 02:TODD_MJj         1.59     1.889 No_date   28:02   68.65  n/a      .000
                    +     1.0 02:TODD_P           3.06      .669 No_date   28:00   70.28  n/a      .000
                    +     1.0 02:TODD_ALL       112.91    17.286 No_date   28:04   66.60  n/a      .000
                    +     1.0 02:W_CLAR_MJn       1.69      .213 No_date   27:52   66.22  n/a      .000
                 SUM=     1.0 01:TODD           121.35    20.000 No_date   28:03   66.72  n/a      .000
R0100:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:TODD           121.35    20.000 No_date   28:03   66.72  n/a      .000
      fname :TODD.0100
      remark:Total Flows at Todd Drain
#*****************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#*****************************************************************************
R0100:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:TODD           121.35    20.000 No_date   28:03   66.72  n/a      .000
               out <=     1.0 01:MS_P3          121.35    15.844 No_date   28:09   66.71  n/a      .000
          overflow <=     1.0 03:P3-OVF            .00      .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.2834E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:GreenB       54717.82   144.531 No_date   36:30   39.32  n/a      .000
                    +     1.0 02:MS_P3          121.35    15.844 No_date   28:09   66.71  n/a      .000
                    +     1.0 02:P3-OVF            .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:TODD_MN2j         .11      .155 No_date   28:00   66.78  n/a      .000
                    +     1.0 02:A2-MJ            1.43     2.026 No_date   28:04   62.46  n/a      .000
                 SUM=     1.0 01:SN_TO        54840.70   144.934 No_date   36:28   39.38  n/a      .000
R0100:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_TO        54840.70   144.934 No_date   36:28   39.38  n/a      .000
      fname :SN_TO.0100
      remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0100:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_TO        54840.70   144.934 No_date   36:28   39.38  n/a      .000
 *   [RDT= 1.00] out<-    1.0 01:N_TO         54840.70   144.824 No_date   36:39   39.38  n/a      .000
      [L/S/n=  280./ .050/.045]
      {Vmax=  .881:Dmax= 3.680}
R0100:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:N_TO         54840.70   144.824 No_date   36:39   39.38  n/a      .000
      fname :N_TO.0100
      remark:Total inflows at Station 2462
#*****************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#*****************************************************************************
R0100:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:corr1           15.87     3.185 No_date   28:01   70.28 .794      .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:corr1           15.87     3.185 No_date   28:01   70.28  n/a      .000
     Major System   /     1.0 02:corr1-MJ          .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \     1.0 03:corr1-MN        15.87     1.818 No_date   28:25   70.70  n/a      .000
      {MjSysSto=.7879E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:corr2           12.47      .388 No_date   29:10   45.95 .519      .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0100:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A1-Corrig       15.75     2.624 No_date   28:01   62.46 .705      .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A1-Corrig       15.75     2.624 No_date   28:01   62.46  n/a      .000
     Major System   /     1.0 02:A1-MJ             .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \     1.0 03:A1-MN           15.75     1.818 No_date   27:55   62.48  n/a      .000
      {MjSysSto=.3859E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:B1               2.77      .143 No_date   28:09   29.03 .328      .000
      [CN= 56.0: N= 3.00: Tp=  .23]
      [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
      [InterEventTime=  12.00]
R0100:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A4               1.27      .266 No_date   28:00   70.58 .797      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A4               1.27      .266 No_date   28:00   70.58  n/a      .000
     Major System   /     1.0 02:A4-MJ             .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \     1.0 03:A4-MN            1.27      .266 No_date   28:00   70.58  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A1-MJ             .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:A1-MN           15.75     1.818 No_date   27:55   62.48  n/a      .000
                    +     1.0 02:corr1-MJ          .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:corr1-MN        15.87     1.818 No_date   28:25   70.70  n/a      .000
                    +     1.0 02:corr2           12.47      .388 No_date   29:10   45.95  n/a      .000
                    +     1.0 02:B1               2.77      .143 No_date   28:09   29.03  n/a      .000
                    +     1.0 02:A4-MN            1.27      .266 No_date   28:00   70.58  n/a      .000
                 SUM=     1.0 01:MH101           48.13     4.085 No_date   28:02   59.20  n/a      .000
R0100:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH101           48.13     4.085 No_date   28:02   59.20  n/a      .000
      fname :MH101.0100
      remark:Total Flows at MH101
R0100:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH101           48.13     4.085 No_date   28:02   59.20  n/a      .000
 *   [RDT= 1.00] out<-    1.0 01:101-102         48.13     4.065 No_date   28:03   59.20  n/a      .000
      [L/S/n=  368./ .540/.013]
      {Vmax= 3.154:Dmax= 1.125}
      [Din= 1.05:Dused= 1.37}
R0100:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A2-MN           24.07     1.818 No_date   27:50   62.71  n/a      .000
                    +     1.0 02:101-102         48.13     4.065 No_date   28:03   59.20  n/a      .000
                 SUM=     1.0 01:MH102           72.20     5.883 No_date   28:03   60.37  n/a      .000
R0100:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH102           72.20     5.883 No_date   28:03   60.37  n/a      .000
      fname :MH102.0100
      remark:Total Flows at MH102
R0100:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A5               1.60      .346 No_date   28:01   73.40 .829      .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A4-MJ             .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:A5               1.60      .346 No_date   28:01   73.40  n/a      .000
                 SUM=     1.0 01:A5T              1.60      .346 No_date   28:01   73.40  n/a      .000
R0100:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A5T              1.60      .346 No_date   28:01   73.40  n/a      .000
     Major System   /     1.0 02:A5-MJ             .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \     1.0 03:A5-MN            1.60      .346 No_date   28:01   73.40  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH102           72.20     5.883 No_date   28:03   60.37  n/a      .000
 *   [RDT= 1.00] out<-    1.0 01:102-103         72.20     5.831 No_date   28:12   60.37  n/a      .000
      [L/S/n=  504./ .280/.013]
      {Vmax= 2.701:Dmax= 1.459}
      [Din= 1.50:Dused= 1.78}
R0100:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:102-103         72.20     5.831 No_date   28:12   60.37  n/a      .000
                    +     1.0 02:A5-MN            1.60      .346 No_date   28:01   73.40  n/a      .000
                 SUM=     1.0 01:MH103           73.80     6.079 No_date   28:04   60.65  n/a      .000
R0100:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH103           73.80     6.079 No_date   28:04   60.65  n/a      .000
      fname :MH103.0100
      remark:Total Flows at MH103
R0100:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->    1.0 02:MH103           73.80     6.079 No_date   28:04   60.65  n/a      .000
     [RDT= 1.00] out<-    1.0 01:103-104         73.80     6.014 No_date   28:05   60.65  n/a      .000
      [L/S/n=  438./ .460/.013]
      {Vmax= 3.295:Dmax= 1.330}
      [Din= 1.65:Dused= 1.65}
R0100:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:A6               1.56      .339 No_date   28:00   73.40 .829      .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A5-MJ             .00      .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:A6               1.56      .339 No_date   28:00   73.40  n/a      .000
                 SUM=     1.0 01:A6T              1.56      .339 No_date   28:00   73.40  n/a      .000
R0100:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:A6T              1.56      .339 No_date   28:00   73.40  n/a      .000
     Major System   /     1.0 02:A6-MJ             .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \     1.0 03:A6-MN            1.56      .339 No_date   28:00   73.40  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:A6-MN            1.56      .339 No_date   28:00   73.40  n/a      .000
                    +     1.0 02:103-104         73.80     6.014 No_date   28:05   60.65  n/a      .000
                    +     1.0 02:TODD_MJn        28.64     3.314 No_date   27:54   68.65  n/a      .000
                 SUM=     1.0 01:MH104          104.00     9.601 No_date   28:03   63.04  n/a      .000
R0100:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:MH104          104.00     9.601 No_date   28:03   63.04  n/a      .000
      fname :MH104.0100
```

```
        remark:Total Flows at MH104
R0100:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B2              12.31    2.012 No_date   28:02   62.88 .710     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B2              12.31    2.012 No_date   28:02   62.88  n/a     .000
      Major System   /      1.0 02:B2-MJ             .36     .820 No_date   28:05   62.88  n/a     .000
      Minor System   \      1.0 03:B2-MN           11.95    1.029 No_date   27:51   62.91  n/a     .000
        {MjSysSto=.5080E+03,  TotOvfVol=.2245E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:B2-MN           11.95    1.029 No_date   27:51   62.91  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:315-333         11.95    1.029 No_date   28:35   62.91  n/a     .000
        [L/S/n=  254./ .100/.013]
        {Vmax= 1.220:Dmax=  .838}
        [Din= 1.20:Dused= 1.20}
R0100:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B3               5.59     .930 No_date   28:01   62.88 .710     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B3               5.59     .930 No_date   28:01   62.88  n/a     .000
      Major System   /      1.0 02:B3-MJ             .19     .402 No_date   28:04   62.88  n/a     .000
      Minor System   \      1.0 03:B3-MN            5.40     .459 No_date   27:50   63.05  n/a     .000
        {MjSysSto=.2270E+03,  TotOvfVol=.1217E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B3-MN            5.40     .459 No_date   27:50   63.05  n/a     .000
                       +    1.0 02:315-333         11.95    1.029 No_date   28:35   62.91  n/a     .000
                     SUM=   1.0 01:MH333           17.35    1.488 No_date   28:35   62.96  n/a     .000
R0100:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH333           17.35    1.488 No_date   28:35   62.96  n/a     .000
        fname :MH333.0100
        remark:Total Flows at MH333
R0100:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH333           17.35    1.488 No_date   28:35   62.96  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:333-335         17.35    1.489 No_date   28:27   62.96  n/a     .000
        [L/S/n=  251./ .100/.013]
        {Vmax= 1.302:Dmax= 1.057}
        [Din= 1.20:Dused= 1.29}
R0100:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:333-335         17.35    1.489 No_date   28:27   62.96  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:335-338         17.35    1.481 No_date   28:35   62.96  n/a     .000
        [L/S/n=  185./ .100/.013]
        {Vmax= 1.302:Dmax= 1.057}
        [Din= 1.20:Dused= 1.29}
R0100:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:335-338         17.35    1.481 No_date   28:35   62.96  n/a     .000
      [RDT= 1.00] out<-     1.0 01:338-340         17.35    1.480 No_date   28:35   62.96  n/a     .000
        [L/S/n=  233./ .100/.013]
        {Vmax= 1.330:Dmax=  .981}
        [Din= 1.35:Dused= 1.35}
R0100:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B4               7.60    1.252 No_date   28:02   62.88 .710     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B4               7.60    1.252 No_date   28:02   62.88  n/a     .000
      Major System   /      1.0 02:B4-MJ             .17     .411 No_date   28:06   62.88  n/a     .000
      Minor System   \      1.0 03:B4-MN            7.43     .655 No_date   27:51   62.90  n/a     .000
        {MjSysSto=.3230E+03,  TotOvfVol=.1079E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:338-340         17.35    1.480 No_date   28:35   62.96  n/a     .000
                       +    1.0 02:B4-MN            7.43     .655 No_date   27:51   62.90  n/a     .000
                     SUM=   1.0 01:MH340           24.78    2.126 No_date   28:34   62.94  n/a     .000
R0100:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH340           24.78    2.126 No_date   28:34   62.94  n/a     .000
        fname :MH340.0100
        remark:Total Flows at MH340
R0100:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH340           24.78    2.126 No_date   28:34   62.94  n/a     .000
      [RDT= 1.00] out<-     1.0 01:340-104         24.78    2.116 No_date   28:21   62.94  n/a     .000
        [L/S/n=  240./ .150/.013]
        {Vmax= 1.726:Dmax=  .923}
        [Din= 1.65:Dused= 1.65}
R0100:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:340-104         24.78    2.116 No_date   28:21   62.94  n/a     .000
                       +    1.0 02:MH104          104.00    9.601 No_date   28:03   63.04  n/a     .000
                     SUM=   1.0 01:MH104T         128.78   11.560 No_date   28:04   63.02  n/a     .000
R0100:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH104T         128.78   11.560 No_date   28:04   63.02  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:104-105        128.78   11.359 No_date   28:10   63.02  n/a     .000
        [L/S/n=  380./ .100/.013]
        {Vmax= 2.115:Dmax= 2.014}
        {HGTH= 2.37:WDTH= 2.71}
R0100:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B5               2.20     .437 No_date   28:00   66.83 .755     .000
        [XIMP=.57:TIMP=.57]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B5               2.20     .437 No_date   28:00   66.83  n/a     .000
      Major System   /      1.0 02:B5-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:B5-MN            2.20     .260 No_date   27:51   66.87  n/a     .000
        {MjSysSto=.9053E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A8                .96     .219 No_date   28:00   73.40 .829     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:A8                .96     .219 No_date   28:00   73.40  n/a     .000
                     SUM=   1.0 01:A8T               .96     .219 No_date   28:00   73.40  n/a     .000
R0100:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A8T               .96     .219 No_date   28:00   73.40  n/a     .000
      Major System   /      1.0 02:A8-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A8-MN             .96     .219 No_date   28:00   73.40  n/a     .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:104-105        128.78   11.359 No_date   28:10   63.02  n/a     .000
                       +    1.0 02:B5-MN            2.20     .260 No_date   27:51   66.87  n/a     .000
                       +    1.0 02:A8-MN             .96     .219 No_date   28:00   73.40  n/a     .000
                       +    1.0 02:TODD_MN3j         .01     .009 No_date   28:00   66.78  n/a     .000
                     SUM=   1.0 01:MH105          131.94   11.688 No_date   28:10   63.16  n/a     .000
R0100:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH105          131.94   11.688 No_date   28:10   63.16  n/a     .000
        fname :MH105.0100
        remark:Total Flows at MH105
R0100:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *   DIVERT HYD      ->     1.0 01:A8-MJ             .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=     1.0 02:A8-MJ-JR          .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=     1.0 03:A8-MJ-B6          .00     .000 No_date    0:00     .00  n/a     .000
R0100:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     DIVERT HYD      ->     1.0 01:MH105          131.94   11.688 No_date   28:10   63.16  n/a     .000
            diverted <=     1.0 02:MH105-JR        36.57    8.679 No_date   28:10   63.16  n/a     .000
            diverted <=     1.0 03:MH105-B6        95.37    3.009 No_date   28:10   63.16  n/a     .000
R0100:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B7               7.19    1.283 No_date   28:01   62.88 .710     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B4-MJ             .17     .411 No_date   28:06   62.88  n/a     .000
                       +    1.0 02:B7               7.19    1.283 No_date   28:01   62.88  n/a     .000
                     SUM=   1.0 01:B7-B4MJ          7.36    1.300 No_date   28:06   62.88  n/a     .000
R0100:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B7-B4MJ          7.36    1.300 No_date   28:06   62.88  n/a     .000
      Major System   /      1.0 02:B7R-MJ            .36     .671 No_date   28:06   62.88  n/a     .000
      Minor System   \      1.0 03:B7R-MN           7.00     .629 No_date   28:31   62.97  n/a     .000
        {MjSysSto=.3110E+03,  TotOvfVol=.2280E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:B7R-MN           7.00     .629 No_date   28:31   62.97  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:360-106A         7.00     .629 No_date   28:31   62.97  n/a     .000
        [L/S/n=  167./ .100/.013]
        {Vmax= 1.089:Dmax=  .665}
        [Din= 1.05:Dused= 1.05}
R0100:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B6               3.29     .602 No_date   28:00   62.88 .710     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B6               3.29     .602 No_date   28:00   62.88  n/a     .000
      Major System   /      1.0 02:B6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:B6-MN            3.29     .064 No_date   27:33   62.92  n/a     .000
        {MjSysSto=.7353E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:EX-LAND         32.50    5.231 No_date   28:02   62.70 .708     .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0100:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:EX-LAND         32.50    5.231 No_date   28:02   62.70  n/a     .000
      Major System   /      1.0 02:EX-LAND-MJ       1.77    2.874 No_date   28:03   62.70  n/a     .000
      Minor System   \      1.0 03:EX-LAND-MN      30.73    2.275 No_date   27:48   62.82  n/a     .000
        {MjSysSto=.1365E+04,  TotOvfVol=.1111E+04,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B7R-MJ            .36     .671 No_date   28:06   62.88  n/a     .000
                       +    1.0 02:EX-LAND-MJ       1.77    2.874 No_date   28:03   62.70  n/a     .000
                       +    1.0 02:B5-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:B6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:B6-MN            3.29     .064 No_date   27:33   62.92  n/a     .000
                       +    1.0 02:A8-MJ-B6          .00     .000 No_date    0:00     .00  n/a     .000
                     SUM=   1.0 01:B6-B7ExMJ        5.42    3.483 No_date   28:03   62.85  n/a     .000
R0100:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B6-B7ExMJ        5.42    3.483 No_date   28:03   62.85  n/a     .000
      Major System   /      1.0 02:B6R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:B6R-MN           5.42     .064 No_date   27:33   62.85  n/a     .000
        {MjSysSto=.1339E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH105-B6        95.37    3.009 No_date   28:10   63.16  n/a     .000
      [RDT= 1.00] out<-     1.0 01:105-106A        95.37    3.009 No_date   28:04   63.16  n/a     .000
        [L/S/n=  208./ .100/.013]
        {Vmax= 1.597:Dmax= 1.249}
        [Din= 1.80:Dused= 1.80}
R0100:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:360-106A         7.00     .629 No_date   28:31   62.97  n/a     .000
                       +    1.0 02:105-106A        95.37    3.009 No_date   28:04   63.16  n/a     .000
                       +    1.0 02:B6R-MN           5.42     .064 No_date   27:33   62.85  n/a     .000
                       +    1.0 02:B6R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                     SUM=   1.0 01:MH106A         107.80    3.702 No_date   28:10   63.13  n/a     .000
R0100:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106A         107.80    3.702 No_date   28:10   63.13  n/a     .000
        fname :MH106A.0100
        remark:Total Flows at MH106A
R0100:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH106A         107.80    3.702 No_date   28:10   63.13  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:106A-106       107.80    3.757 No_date   28:13   63.13  n/a     .000
        [L/S/n=  190./ .100/.013]
        {Vmax= 1.635:Dmax= 1.487}
        [Din= 1.80:Dused= 1.81}
R0100:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A9               2.44     .539 No_date   28:00   73.40 .829     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A9               2.44     .539 No_date   28:00   73.40  n/a     .000
      Major System   /      1.0 02:A9-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A9-MN            2.44     .539 No_date   28:00   73.40  n/a     .000
R0100:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106A-106       107.80    3.757 No_date   28:13   63.13  n/a     .000
                       +    1.0 02:A9-MN            2.44     .539 No_date   28:00   73.40  n/a     .000
                     SUM=   1.0 01:MH106          110.24    4.227 No_date   28:00   63.36  n/a     .000
R0100:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106          110.24    4.227 No_date   28:00   63.36  n/a     .000
        fname :MH106.0100
        remark:Total Flows at MH106
R0100:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH106          110.24    4.227 No_date   28:00   63.36  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:106-107        110.24    4.179 No_date   28:02   63.36  n/a     .000
        [L/S/n=  123./ .100/.013]
        {Vmax= 1.690:Dmax= 1.563}
        [Din= 1.80:Dused= 1.90}
R0100:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A10              4.14     .693 No_date   28:01   59.73 .674     .000
        [XIMP=.35:TIMP=.47]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A10              4.14     .693 No_date   28:01   59.73  n/a     .000
      Major System   /      1.0 02:A10-MJ            .09     .218 No_date   28:05   59.73  n/a     .000
      Minor System   \      1.0 03:A10-MN           4.05     .310 No_date   27:48   60.02  n/a     .000
        {MjSysSto=.2280E+03,  TotOvfVol=.5334E+02,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A11             10.61    1.941 No_date   28:01   67.38 .761     .000
        [XIMP=.53:TIMP=.62]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A11             10.61    1.941 No_date   28:01   67.38  n/a     .000
      Major System   /      1.0 02:A11-MJ            .16     .564 No_date   28:06   67.38  n/a     .000
      Minor System   \      1.0 03:A11-MN          10.45     .993 No_date   28:34   67.69  n/a     .000
        {MjSysSto=.5560E+03,  TotOvfVol=.1090E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106-107        110.24    4.179 No_date   28:02   63.36  n/a     .000
                       +    1.0 02:A10-MN           4.05     .310 No_date   27:48   60.02  n/a     .000
                       +    1.0 02:A11-MN          10.45     .993 No_date   28:34   67.69  n/a     .000
                     SUM=   1.0 01:MH107          124.74    5.482 No_date   28:02   63.62  n/a     .000
R0100:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH107          124.74    5.482 No_date   28:02   63.62  n/a     .000
        fname :MH107.0100
        remark:Total Flows at MH107
R0100:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH107          124.74    5.482 No_date   28:02   63.62  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:107-119        124.74    5.468 No_date   28:04   63.62  n/a     .000
        [L/S/n=  114./ .120/.013]
        {Vmax= 1.932:Dmax= 1.665}
        [Din= 1.80:Dused= 2.03}
R0100:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:107-119        124.74    5.468 No_date   28:04   63.62  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:119-108        124.74    5.480 No_date   28:05   63.62  n/a     .000
        [L/S/n=   66./ .120/.013]
        {Vmax= 1.930:Dmax= 1.664}
        [Din= 1.80:Dused= 2.03}
R0100:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A12             12.29    2.213 No_date   28:01   62.88 .710     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A12             12.29    2.213 No_date   28:01   62.88  n/a     .000
      Major System   /      1.0 02:A12-MJ            .23     .599 No_date   28:05   62.88  n/a     .000
      Minor System   \      1.0 03:A12-MN          12.06    1.029 No_date   27:48   63.11  n/a     .000
        {MjSysSto=.6720E+03,  TotOvfVol=.1477E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A13              2.59     .540 No_date   28:01   73.40 .829     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A13              2.59     .540 No_date   28:01   73.40  n/a     .000
      Major System   /      1.0 02:A13-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A13-MN           2.59     .540 No_date   28:01   73.40  n/a     .000
R0100:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Pond-Block       2.94     .490 No_date   28:00   59.56 .673     .000
        [XIMP=.41:TIMP=.41]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:119-108        124.74    5.480 No_date   28:05   63.62  n/a     .000
                       +    1.0 02:A13-MN           2.59     .540 No_date   28:01   73.40  n/a     .000
                       +    1.0 02:A12-MN          12.06    1.029 No_date   27:48   63.11  n/a     .000
                     SUM=   1.0 01:MH108          139.38    6.996 No_date   28:03   63.75  n/a     .000
R0100:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH108          139.38    6.996 No_date   28:03   63.75  n/a     .000
        fname :MH108.0100
        remark:Total Flows at MH108
R0100:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH108          139.38    6.996 No_date   28:03   63.75  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:108-116        139.38    6.987 No_date   28:04   63.75  n/a     .000
        [L/S/n=   77./ .130/.013]
        {Vmax= 2.116:Dmax= 1.798}
        [Din= 1.80:Dused= 2.19}
R0100:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:108-116        139.38    6.987 No_date   28:04   63.75  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:116-corrig     139.38    6.949 No_date   28:06   63.75  n/a     .000
        [L/S/n=   80./ .130/.013]
        {Vmax= 2.115:Dmax= 1.797}
        [Din= 1.80:Dused= 2.19}
R0100:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:116-corrig     139.38    6.949 No_date   28:06   63.75  n/a     .000
                       +    1.0 02:Pond-Block       2.94     .490 No_date   28:00   59.56  n/a     .000
                     SUM=   1.0 01:Corrigan       142.32    7.300 No_date   28:04   63.67  n/a     .000
R0100:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:Corrigan       142.32    7.300 No_date   28:04   63.67  n/a     .000
        fname :Corrigan.0100
        remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0100:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Corrigan       142.32    7.300 No_date   28:04   63.67  n/a     .000
                out <=      1.0 01:Co-P           142.32    6.658 No_date   28:15   63.67  n/a     .000
           overflow <=      1.0 03:Co-P-OVF          .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.1044E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:Co-P-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                       +    1.0 02:Co-P           142.32    6.658 No_date   28:15   63.67  n/a     .000
                       +    1.0 02:N_TO         54840.70  144.824 No_date   36:39   39.38  n/a     .000
                       +    1.0 02:MH105-JR        36.57    8.679 No_date   28:10   63.16  n/a     .000
                       +    1.0 02:A8-MJ-JR          .00     .000 No_date    0:00     .00  n/a     .000
```

```
                         +      1.0 02:A9-MI           .00      .000 No_date    0:00     .00  n/a     .000
                         +      1.0 02:A10-MI          .09      .218 No_date   28:05   59.73  n/a     .000
                         +      1.0 02:A11-MI          .16      .564 No_date   28:06   67.38  n/a     .000
                         +      1.0 02:A12-MI          .23      .599 No_date   28:05   62.88  n/a     .000
                         +      1.0 02:A13-MI          .00      .000 No_date    0:00     .00  n/a     .000
                      SUM=      1.0 01:corrig     55020.08   145.505 No_date   36:37   39.46  n/a     .000
R0100:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                    1.0 01:corrig     55020.08   145.505 No_date   36:37   39.46  n/a     .000
      fname :corrig.0100
      remark:Total Flows at Corrigan Pond
#*****************************************************************************
#     Corrigan Pond 1
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
#*****************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0100:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->     1.0 02:corrig     55020.08   145.505 No_date   36:37   39.46  n/a     .000
     [RDT= 1.00] out<-      1.0 01:N_MI       55020.08   145.490 No_date   36:40   39.46  n/a     .000
      [L/S/n=  580./ .445/.045]
      {Vmax= 2.170:Dmax= 2.124}
#*****************************************************************************
#     Catchment MILLS
#     - To SWM Facility north of the Jock
#     - Primarily residental development
#*****************************************************************************
R0100:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:MILLS        175.99    20.390 No_date   28:06   56.87 .642     .000
      [XIMP=.38:TIMP=.38]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#*****************************************************************************
#     Chapman Mills SWM Pond
#     - Rating curve obtained from CCL hydraulic modeling
#*****************************************************************************
R0100:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:MILLS        175.99    20.390 No_date   28:06   56.87  n/a     .000
                out  <=     1.0 01:MILL_P       146.22     4.050 No_date   28:08   56.87  n/a     .000
           overflow  <=     1.0 03:MIL-OV        29.77    16.228 No_date   28:08   56.87  n/a     .000
     {MxStoUsed=.2310E+01  m3, TotOvfVol=.1693E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0100:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                     1.0 02:N_MI       55020.08   145.490 No_date   36:40   39.46  n/a     .000
                         +      1.0 02:MIL-OV        29.77    16.228 No_date   28:08   56.87  n/a     .000
                         +      1.0 02:MILL_P       146.22     4.050 No_date   28:08   56.87  n/a     .000
                      SUM=      1.0 01:SN_MI      55196.07   146.161 No_date   36:39   39.51  n/a     .000
R0100:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                    1.0 01:SN_MI      55196.07   146.161 No_date   36:39   39.51  n/a     .000
      fname :SN_MI.0100
      remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0100:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->     1.0 02:SN_MI      55196.07   146.161 No_date   36:39   39.51  n/a     .000
     [RDT= 1.00] out<-      1.0 01:N_DE       55196.07   145.839 No_date   36:54   39.51  n/a     .000
      [L/S/n= 1962./ .223/.045]
      {Vmax= 1.642:Dmax= 2.659}
#*****************************************************************************
#     Catchment DESIRE
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#*****************************************************************************
R0100:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:DESIRE        23.78     3.004 No_date   28:03   53.11 .600     .000
      [XIMP=.25:TIMP=.25]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#*****************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#*****************************************************************************
R0100:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:JOCKVA       225.13    28.623 No_date   28:07   62.70 .708     .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0100:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                     1.0 02:EX-LAND-MN    30.73     2.275 No_date   27:48   62.82  n/a     .000
                         +      1.0 02:JOCKVA       225.13    28.623 No_date   28:07   62.70  n/a     .000
                         +      1.0 02:B2-MI           .36      .820 No_date   28:05   62.88  n/a     .000
                         +      1.0 02:B3-MI           .19      .402 No_date   28:04   62.88  n/a     .000
                      SUM=      1.0 01:JOCKVA-TO    256.41    31.850 No_date   28:06   62.71  n/a     .000
R0100:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                    1.0 01:JOCKVA-TO    256.41    31.850 No_date   28:06   62.71  n/a     .000
      fname :JOCKVA-TO.0100
      remark:Total Flows at KB first pond
#*****************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#*****************************************************************************
R0100:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:JOCKVA-TO    256.41    31.850 No_date   28:06   62.71  n/a     .000
                out  <=     1.0 01:JOCK_P       256.41    12.850 No_date   28:35   62.71  n/a     .000
           overflow  <=     1.0 03:JO-OVF          .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6430E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                     1.0 02:N_DE       55196.07   145.839 No_date   36:54   39.51  n/a     .000
                         +      1.0 02:DESIRE        23.78     3.004 No_date   28:03   53.11  n/a     .000
                         +      1.0 02:JO-OVF          .00      .000 No_date    0:00     .00  n/a     .000
                         +      1.0 02:JOCK_P       256.41    12.850 No_date   28:35   62.71  n/a     .000
                      SUM=      1.0 01:SN_DE      55476.26   146.840 No_date   36:52   39.63  n/a     .000
R0100:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                    1.0 01:SN_DE      55476.26   146.840 No_date   36:52   39.63  n/a     .000
      fname :SN_DE.0100
      remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0100:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL    ->     1.0 02:SN_DE      55476.26   146.840 No_date   36:52   39.63  n/a     .000
     [RDT= 1.00] out<-      1.0 01:N1         55476.26   146.826 No_date   36:55   39.63  n/a     .000
      [L/S/n=  563./ .967/.045]
      {Vmax= 2.218:Dmax= 1.328}
#*****************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#*****************************************************************************
R0100:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:S-2          102.94     5.685 No_date   28:20   40.95 .462     .000
      [CN= 72.0: N= 3.00:  Tp=  .40]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEventTime=  12.00]
R0100:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                     1.0 02:N1         55476.26   146.826 No_date   36:55   39.63  n/a     .000
                         +      1.0 02:S-2          102.94     5.685 No_date   28:20   40.95  n/a     .000
                      SUM=      1.0 01:SN_N1      55579.20   147.102 No_date   36:55   39.63  n/a     .000
R0100:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                    1.0 01:SN_N1      55579.20   147.102 No_date   36:55   39.63  n/a     .000
      fname :SN_N1.0100
      remark:Total Flows at Rideau River
###########################################################################
R0100:C00002----------------------------------------------------------------------------------------
    FINISH
----------------------------------------------------------------------------------------------------
****************************************************************************************************
     WARNINGS / ERRORS / NOTES
     -------------------------
R0002:C00283  ROUTE RESERVOIR
*** WARNING: Inflow peak was not reduced! Check OUTFLOW STORAGE table or reduce DT.
R0002:C00305  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00311  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00344  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0002:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00371  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00380  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00381  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00283  ROUTE RESERVOIR
*** WARNING: Inflow peak was not reduced! Check OUTFLOW STORAGE table or reduce DT.
R0005:C00305  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00311  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00327  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00328  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00336  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00344  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0005:C00359  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00371  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00380  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00381  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00305  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00311  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00327  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00328  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00336  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00344  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0010:C00359  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00371  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00380  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00381  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00305  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00311  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00327  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00328  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00336  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00344  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0025:C00359  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00371  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00380  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00381  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00305  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00311  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00327  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00328  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00336  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00344  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0050:C00359  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00371  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00380  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00381  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00305  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00311  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00327  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00328  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00336  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00344  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0100:C00359  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00371  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00380  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00381  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
    Simulation ended on 2021-03-04     at 11:57:06
====================================================================================================
```

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment E

Model 4B – Jock River Reach One Future Conditions – With SWM controls

JFSA, 2021

SWMHYMO Input & Summary files

```
20     Metric units / ID numbers OFF
*#******************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#******************************************************************************
*#  Project Name: [Jock River]     Project Number: [1474-16]
*#  Date          : 04-03-2021
*#  Modeller      : [M M]
*#  Company       : JFSAinc.
*#  License #     :  2549237
*#******************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
*# 2020-12-01 correct pond curve values
*# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per Stantec Report 2007) to 0.05 %so the model will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs aren't well suited to really flat slopes.
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per Stantec Report 2007) to 0.0255 %so the model will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs aren't well suited to really flat slopes.
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                               SK=0.01, InterEventTime=12,
*                                               GWResk=0.96, VHydCond=0.055
*
*# ---------------------------------------------------------------------------
*
*START                  TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                       ["XAVG0315.STM"] average storm data a 15 minute time step
*                       The above rainf file is an average of the JFSA gauge data
*                       with the City of Ottawa rainfall data collected during
*                       the same period.
*% 2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                  TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[2]
                       ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
READ STORM             STORM_FILENAME=["storm.001"]
*%-----------------|-----------------------------------------------------------|
MODIFY STORM           ICASEms=[1],  NSHIFT=[96],
                       RedFACT=[1],
*%-----------------|-----------------------------------------------------------|
DEFAULT VALUES         ICASEdef=[1],  read and print values
                       DEFVAL_FILENAME=["CitiGate.DEF"]
*%-----------------|-----------------------------------------------------------|
COMPUTE API            APII=[50],  APIK=[.85]/day
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD      NHYD=["JR_HW"], DT=[1]min, AREA=[3680](ha),
                       DWF=[0](cms),  CN/C=[64], IA=[2.5](mm),
                       N=[3.0],  TP=[7.13]hrs,
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),
                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
```

```
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_13"], DT=[1]min, AREA=[971](ha),
                            DWF=[0](cms),   CN/C=[61], IA=[2.5](mm),
                            N=[3.0], TP=[3.76]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_GWM"], DT=[1]min, AREA=[3074](ha),
                            DWF=[0](cms),   CN/C=[55], IA=[2.5](mm),
                            N=[3], TP=[11.33]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_ASH"], DT=[1]min, AREA=[1781](ha),
                            DWF=[0](cms),   CN/C=[72], IA=[2.5](mm),
                            N=[3.0], TP=[3.91]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_11"], DT=[1]min, AREA=[500](ha),
                            DWF=[0](cms),   CN/C=[66], IA=[2.5](mm),
                            N=[3.0], TP=[1.24]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NN_CK"], DT=[1]min, AREA=[1917](ha),
                            DWF=[0](cms),   CN/C=[66], IA=[2.5](mm),
```

```
                          N=[3.0], TP=[5.29]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_10"], DT=[1]min, AREA=[5666](ha),
                          DWF=[0](cms),   CN/C=[72], IA=[2.5](mm),
                          N=[3.0], TP=[8.00]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["KG_CK"], DT=[1]min, AREA=[8376](ha),
                          DWF=[0](cms),   CN/C=[66], IA=[2.5](mm),
                          N=[3.0], TP=[11.66]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["SW_9"], DT=[1]min, AREA=[1132](ha),
                          DWF=[0](cms),   CN/C=[70], IA=[2.5](mm),
                          N=[3.0], TP=[2.51]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["NC_CK"], DT=[1]min, AREA=[4464](ha),
                          DWF=[0](cms),   CN/C=[62], IA=[2.5](mm),
                          N=[3.0], TP=[11.32]hrs,
                          Continuous simulation parameters:
```

```
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_8"],  DT=[1]min,  AREA=[131](ha),
                          DWF=[0](cms),   CN/C=[63],  IA=[2.5](mm),
                          N=[3.0],  TP=[0.90]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["HB_DR"],  DT=[1]min,  AREA=[3854](ha),
                          DWF=[0](cms),   CN/C=[66],  IA=[2.5](mm),
                          N=[3.0],  TP=[8.42]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_7"],  DT=[1]min,  AREA=[3197](ha),
                          DWF=[0](cms),   CN/C=[57],  IA=[2.5](mm),
                          N=[3.0],  TP=[6.65]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_6"],  DT=[1]min,  AREA=[165](ha),
                          DWF=[0](cms),   CN/C=[67],  IA=[2.5](mm),
                          N=[3.0],  TP=[4.18]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
```

```
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["VG_DR"], DT=[1]min, AREA=[1332](ha),
                        DWF=[0](cms),   CN/C=[72], IA=[2.5](mm),
                        N=[3.0], TP=[5.95]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["SW_5"], DT=[1]min, AREA=[224](ha),
                        DWF=[0](cms),   CN/C=[77], IA=[2.5](mm),
                        N=[3.0], TP=[0.75]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["FL_CK"], DT=[1]min, AREA=[4945](ha),
                        DWF=[0](cms),   CN/C=[74], IA=[2.5](mm),
                        N=[3.0], TP=[4.45]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["SW_5A2"], DT=[1]min, AREA=[20](ha),
                        DWF=[0](cms),   CN/C=[81], IA=[2.5](mm),
                        N=[3.0], TP=[0.62]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%-----------------|--------------------------------------------------------------|
```

```
CONTINUOUS NASHYD     NHYD=["SW_5A1"], DT=[1]min, AREA=[1412](ha),
                      DWF=[0](cms),   CN/C=[75], IA=[2.5](mm),
                      N=[3.0], TP=[8.00]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["SW_4"], DT=[1]min, AREA=[585](ha),
                      DWF=[0](cms),   CN/C=[81], IA=[2.5](mm),
                      N=[3.0], TP=[1.75]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["LM_CK"], DT=[1]min, AREA=[1021](ha),
                      DWF=[0](cms),   CN/C=[80], IA=[2.5](mm),
                      N=[3.0], TP=[2.46]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["SW_2"], DT=[1]min, AREA=[177](ha),
                      DWF=[0](cms),   CN/C=[77], IA=[2.5](mm),
                      N=[3.0], TP=[0.75]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["SM_DR"], DT=[1]min, AREA=[1122](ha),
                      DWF=[0](cms),   CN/C=[81], IA=[2.5](mm),
                      N=[3.0], TP=[3.25]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["MO_DR"], DT=[1]min, AREA=[2737](ha),
                      DWF=[0](cms),   CN/C=[76], IA=[2.5](mm),
                      N=[3.0], TP=[3.03]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|---------------------------------------------------------------|
*    -JFSA 2020 replaced SW_1 with a detailed model from Stantec Report 2007
*CONTINUOUS NASHYD    NHYD=["SW_1"], DT=[1]min, AREA=[3176](ha),
*                     DWF=[0](cms),   CN/C=[78], IA=[2.5](mm),
*                     N=[3.0], TP=[3.56]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|---------------------------------------------------------------|
*#
*# Routing hydrographs
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD                   NHYDsum=["S_N13"], NHYDs to add=["JR_HW"+"SW_13"]
*%-----------------|---------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL             NHYDout=["N13A"] ,NHYDin=["S_N13"],
                          RDT=[1](min),
                          CHLGTH=[9074](m),   CHSLOPE=[0.0220](%),
                                               FPSLOPE=[0.0220](%),
                          SECNUM=[1.0],        NSEG=[1]
                          ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                                [-40, 132.5]
                                [-30, 132]
                                [-25, 131.5]
                                [-13, 130]
                                [-8, 127.00]
                                [-7, 126.50]
                                [-6, 126]
                                [-5.5, 125.50]
                                [0, 123.75]
                                [4.5, 125.50]
                                [6, 126]
                                [7.5, 126.5]
                                [9, 127]
                                [10, 127.5]
                                [11.5, 128.0]
                                [15.5, 129.5]
*%-----------------|---------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD                   NHYDsum=["SN13A"], NHYDs to add=["N13A"+"JR_GWM"]
*%-----------------|---------------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR           NHYDout=["RES_GM"] ,NHYDin=["SN13A"],
                          RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                        (cms) - (ha-m)
                                      [    0.0 ,   0.0 ]
                                      [1.991,  2.144     ]
                                      [2.693,  39.826    ]
                                      [3.509,  81.697    ]
                                      [4.578,  318.774   ]
                                      [5.647,  594.947   ]
                                      [7.109,  910.219   ]
                                      [8.616,  1264.589   ]
                                      [10.371,  1658.057   ]
                                      [12.402,  2090.622 ]
                                      [22.056,  3462.487 ]
                                      [    -1   ,    -1   ]  (max twenty pts)
                            NHYDovf=["        "] ,
*%-----------------|-----------------------------------------------------------|
*#
SAVE HYD              NHYD=["RES_GM"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                      HYD_FILENAME=["H_RESGM"]
                      HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-----------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL         NHYDout=["N12"] ,NHYDin=["RES_GM"] ,
                      RDT=[1](min),
                      CHLGTH=[5926](m),   CHSLOPE=[0.0759](%),
                                          FPSLOPE=[0.0759](%),
                      SECNUM=[1.0],         NSEG=[1]
                      ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                            [-40, 132.5]
                            [-30, 132]
                            [-25, 131.5]
                            [-13, 130]
                            [-8, 127.00]
                            [-7, 126.50]
                            [-6, 126]
                            [-5.5, 125.50]
                            [0, 123.75]
                            [4.5, 125.50]
                            [6, 126]
                            [7.5, 126.5]
                            [9, 127]
                            [10, 127.5]
                            [11.5, 128.00]
                            [15.5, 129.5]
*%-----------------|-----------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD               NHYDsum=["S_N12"], NHYDs to add=["N12"+"JR_ASH"]
SAVE HYD              NHYD=["S_N12"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                      HYD_FILENAME=["H_SN12"]
                      HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-----------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*ROUTE CHANNEL         NHYDout=["N11"] ,NHYDin=["S_N12"] ,
*                      RDT=[1](min),
*                      CHLGTH=[972](m),   CHSLOPE=[0.0514](%),
*                                          FPSLOPE=[0.0514](%),
*                      SECNUM=[1.0],         NSEG=[1]
*                      ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
*                      ( DISTANCE (m), ELEVATION (m))=
```

```
*                                [-40, 132.5]
*                                [-30, 132]
*                                [-25, 131.5]
*                                [-13, 130]
*                                [-8, 127.00]
*                                [-7, 126.50]
*                                [-6, 126]
*                                [-5.5, 125.50]
*                                [0, 123.75]
*                                [4.5, 125.50]
*                                [6, 126]
*                                [7.5, 126.5]
*                                [9, 127]
*                                [10, 127.5]
*                                [11.5, 128.00]
*                                [15.5, 129.5]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL          NHYDout=["Dum11"] ,NHYDin=["S_N12"] ,
                       RDT=[1](min),
                       CHLGTH=[972](m),   CHSLOPE=[0.054](%),
                                            FPSLOPE=[0.054](%),
                       SECNUM=[1.0],        NSEG=[1]
                       ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                              [-40, 132.5]
                              [-30, 132]
                              [-25, 131.5]
                              [-13, 130]
                              [-8, 127.00]
                              [-7, 126.50]
                              [-6, 126]
                              [-5.5, 125.50]
                              [0, 123.75]
                              [4.5, 125.50]
                              [6, 126]
                              [7.5, 126.5]
                              [9, 127]
                              [10, 127.5]
                              [11.5, 128.00]
                              [15.5, 129.5]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD                NHYDsum=["S_N11"], NHYDs to add=["Dum11"+"SW_11"+"NN_CK"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL          NHYDout=["N10"] ,NHYDin=["S_N11"] ,
                       RDT=[1](min),
                       CHLGTH=[14028](m),   CHSLOPE=[0.1568](%),
                                            FPSLOPE=[0.1568](%),
                       SECNUM=[1.0],        NSEG=[5]
                       ( SEGROUGH, SEGDIST (m))=
                        [0.04,-52.82
                         0.1,-6.47
                         -0.05,6.47
                         0.1,45.36
                         0.04,423.88] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                              [-226.24 ,112.50]
```

```
                                  [-167.50 ,111.50]
                                  [-106.81 ,111.00]
                                  [-92.37 ,110.00]
                                  [-52.82 ,109.00]
                                  [-24.90, 109.00]
                                  [-17.02, 108.50]
                                  [-6.47, 108.00]
                                  [6.47, 108.00]
                                  [15.67, 108.50]
                                  [18.95, 109.00]
                                  [45.36, 109.50]
                                  [120.79, 110.00]
                                  [145.72, 111.00]
                                  [181.56, 111.50]
                                  [423.88, 112.50]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD                NHYDsum=["S_N10"], NHYDs to add=["N10"+"SW_10"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD               NHYD=["S_N10"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                       HYD_FILENAME=["H_SN10"]
                       HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|-------------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD                NHYDsum=["S_N10A"], NHYDs to add=["S_N10"+"KG_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL          NHYDout=["N9"] ,NHYDin=["S_N10A"] ,
                       RDT=[1](min),
                       CHLGTH=[3982](m),   CHSLOPE=[0.0753](%),
                                            FPSLOPE=[0.0753](%),
                       SECNUM=[1.0],        NSEG=[4]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.04,-30.27
                          0.05,-18.42
                         -0.05,18.42
                         0.04,131.58] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                                  [-446.74, 106.00]
                                  [-415.68, 105.50]
                                  [-285.40, 105.00]
                                  [-173.77, 104.50]
                                  [-144.95, 104.00]
                                  [-111.18, 103.50]
                                  [-94.06, 103.00]
                                  [-71.02, 102.50]
                                  [-30.27, 102.00]
                                  [-19.33, 100.00]
                                  [-18.42, 99.50]
                                  [18.42, 99.50]
                                  [20.77, 100.00]
                                  [27.93, 101.00]
                                  [52.29, 101.00]
                                  [68.80, 101.50]
                                  [79.66, 103.00]
                                  [91.50, 103.50]
                                  [131.58, 104.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
```

```
*#
ADD HYD               NHYDsum=["S_N9"], NHYDs to add=["N9"+"SW_9"+"NC_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL         NHYDout=["N8"] ,NHYDin=["S_N9"] ,
                      RDT=[1](min),
                      CHLGTH=[2269](m),   CHSLOPE=[0.0882](%),
                                          FPSLOPE=[0.0882](%),
                      SECNUM=[1.0],       NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.1,-17.99
                        -0.045,17.31
                        0.1,456.58] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                            [-201.19,100.50]
                            [-135.21, 100.00]
                            [-94.83, 99.50]
                            [-67.05, 99.00]
                            [-17.99, 98.50]
                            [-16.02, 98.00]
                            [-13.95, 97.50]
                            [13.95, 97.50]
                            [15.64, 98.00]
                            [17.31, 98.50]
                            [162.02, 98.50]
                            [172.89 ,99.00]
                            [314.38, 99.00]
                            [343.78, 99.50]
                            [365.67, 100.00]
                            [376.68, 100.00 ]
                            [393.11, 99.50]
                            [404.97, 99.50]
                            [431.70, 100.00]
                            [456.58, 100.50 ]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD               NHYDsum=["S_N8"], NHYDs to add=["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL         NHYDout=["N7"] ,NHYDin=["S_N8"],
                      RDT=[1](min),
                      CHLGTH=[3750](m),   CHSLOPE=[0.0533](%),
                                          FPSLOPE=[0.0533](%),
                      SECNUM=[1.0],       NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.12,-18.11
                        -0.07,17.22
                        0.12,590.05] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                            [-433.21, 102.00]
                            [-425.34, 101.50]
                            [-377.56, 101.50]
                            [-366.23, 101.00]
                            [-202.60, 100.50]
                            [-96.25, 99.50]
                            [-68.36 99.00]
                            [-18.11, 98.50]
                            [-13.81, 97.50]
```

```
                              [13.81,  97.50]
                              [17.22,  98.50]
                              [161.95, 98.50]
                              [173.11, 99.00]
                              [314.05, 99.00]
                              [365.52, 100.00]
                              [404.70, 99.50]
                              [476.74, 100.50]
                              [502.31, 101.00]
                              [584.69, 101.00]
                              [585.79, 101.00]
                              [590.05, 102.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD                  NHYDsum=["S_N7"], NHYDs to add=["N7"+"SW_7"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["S_N7"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                         HYD_FILENAME=["H_SN7"]
                         HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-------------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR          NHYDout=["RES_RF"] ,NHYDin=["S_N7"] ,
                         RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [   0.0 ,      0.0 ]
                                      [0.9051,     2.40]
                                      [2.907,      4.13]
                                      [9.744,      9.18]
                                      [20.304,    14.96]
                                      [34.167,   310.21]
                                      [74.993,   605.46]
                                      [104.876,  900.71]
                                      [140.56,  2892.00]
                                      [225.00,  3615.63]
                                      [   -1   ,   -1   ]  (max twenty pts)
                              NHYDovf=["        "] ,
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["RES_RF"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                         HYD_FILENAME=["H_ResRF"]
                         HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL            NHYDout=["N6"] ,NHYDin=["RES_RF"] ,
                         RDT=[1](min),
                         CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                            FPSLOPE=[0.0818](%),
                         SECNUM=[1.0],      NSEG=[5]
                         ( SEGROUGH, SEGDIST (m))=
                           [0.025,-70.8
                           0.1,-23.9
                           -0.05,23.9
                           0.06,39.8
```

```
                          0.05,96.3] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                                      [-100.8, 97.00]
                                      [-70.8, 96.50]
                                      [-52.0, 96.00]
                                      [-35.1, 95.50]
                                      [-30.6, 95.00]
                                      [-23.9, 94.54]
                                      [23.9, 94.54]
                                      [39.8, 95.00]
                                      [50.4, 95.50]
                                      [93.5, 96.00]
                                      [94.9, 96.50]
                                      [96.3, 97.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD                 NHYDsum=["S_N6"], NHYDs to add=["N6"+"SW_6"+"VG_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL           NHYDout=["N5"] ,NHYDin=["S_N6"] ,
                        RDT=[1](min),
                        CHLGTH=[1852](m),   CHSLOPE=[0.0540](%),
                                            FPSLOPE=[0.0540](%),
                        SECNUM=[1.0],       NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.035,-131.59
                          -0.045,48.96
                          0.1,239.04] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                                      [-686.30, 94.50]
                                      [-675.70, 94.00]
                                      [-492.52, 93.00]
                                      [-467.28, 94.00]
                                      [-131.59, 94.00]
                                      [-92.79, 92.50]
                                      [-18.06, 91.00]
                                      [18.06, 91.00]
                                      [43.47, 92.50]
                                      [48.96, 94.00]
                                      [177.43, 94.00]
                                      [239.04,94.50]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD                 NHYDsum=["S_N5"], NHYDs to add=["N5"+"SW_5"+"FL_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL           NHYDout=["N5A"] ,NHYDin=["S_N5"] ,
                        RDT=[1](min),
                        CHLGTH=[556](m),   CHSLOPE=[0.0900](%),
                                            FPSLOPE=[0.0900](%),
                        SECNUM=[1.0],       NSEG=[4]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.04,-41.5
                          0.1,-14.0
                          -0.045,14.0
                          0.1,41.1] NSEG times
```

```
                      ( DISTANCE (m), ELEVATION (m))=
                                        [-275.8, 93.00]
                                        [-248.6, 92.50]
                                        [-237.0, 92.00]
                                        [-219.3, 91.50]
                                        [-202.1, 91.50]
                                        [-186.0, 92.00]
                                        [-129.2, 92.00]
                                        [-117.6, 91.50]
                                        [-100.6, 91.00]
                                        [-41.5, 91.00]
                                        [-20.0, 91.00]
                                        [-14.0, 90.54]
                                        [14.0, 90.54]
                                        [15.3, 91.00]
                                        [17.3, 91.50]
                                        [38.4, 92.00]
                                        [39.8, 92.50]
                                        [41.1, 93.00]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD               NHYDsum=["S_N5A"], NHYDs to add=["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL         NHYDout=["N4"] ,NHYDin=["S_N5A"] ,
                      RDT=[1](min),
                      CHLGTH=[4630](m),   CHSLOPE=[0.0432](%),
                                          FPSLOPE=[0.0432](%),
                      SECNUM=[1.0],       NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.05,-28.2
                        -0.035,28.2
                        0.05,173.1] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                                        [-38.9, 92.00]
                                        [-35.8, 91.50]
                                        [-33.3, 91.00]
                                        [-28.2, 90.50]
                                        [-15.0, 87.48]
                                        [-5.0, 88.34]
                                        [5.0, 86.20]
                                        [15.0, 88.55]
                                        [28.2, 90.50]
                                        [29.7, 91.00]
                                        [46.5, 91.00]
                                        [127.8, 91.00]
                                        [148.7, 91.50]
                                        [173.1, 92.00]
*%-----------------|------------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD               NHYDsum=["S_N4"], NHYDs to add=["N4"+"SW_4"+"LM_CK"]
SAVE HYD              NHYD=["S_N4"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                      HYD_COMMENT=["flow at S_N4"]
*%-----------------|------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL         NHYDout=["N2"] ,NHYDin=["S_N4"] ,
```

```
                          RDT=[1](min),
                          CHLGTH=[1667](m),   CHSLOPE=[0.0600](%),
                                              FPSLOPE=[0.0600](%),
                          SECNUM=[1.0],       NSEG=[4]
                          ( SEGROUGH, SEGDIST (m))=
                            [0.1,-28.0
                            -0.04,28.4
                            0.06,31.7
                            0.04,80.2] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                                   [-36.3, 92.00]
                                   [-32.6, 91.50]
                                   [-30.2, 91.00]
                                   [-28.0, 90.45]
                                   [-15.0, 87.48]
                                   [-5.0, 88.34]
                                   [5.0, 86.20]
                                   [15.0, 88.55]
                                   [28.0, 90.45]
                                   [28.4, 90.50]
                                   [30.4, 91.00]
                                   [31.7, 91.50]
                                   [80.2, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD                   NHYDsum=["S_N2"], NHYDs to add=["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                  NHYD=["S_N2"],   # OF PCYCLES=[-1],   ICASEsh=[-1]
                          HYD_FILENAME=["H_SN2"]
                          HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
*#*****************************************************************************
*%READ HYD                  NHYD=["S_N2"],
*%                         HYD_FILENAME=["H-S_N2"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node 2 routed to Node 416
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
*#
ROUTE CHANNEL             NHYDout=["N_416"] ,NHYDin=["S_N2"] ,
                          RDT=[1](min),
                          CHLGTH=[2327](m),   CHSLOPE=[0.0498](%),
                                              FPSLOPE=[0.0498](%),
                          SECNUM=[1.0],       NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=
                            [0.075,-23.96
                            -0.055,23.96
                            0.075,157.38]   NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                          [-336.97,93.5]
                          [-318.85,93]
                          [-259,92.5]
                          [-133.18,92]
                          [-33.17,92]
                          [-27.21,92]
                          [-26.14,91.5]
                          [-24.99,91]
                          [-23.96,90.5]
                          [-14.33,88.26]
                          [-0.68,88.12]
```

```
                            [14.33,88.26]
                            [23.96,90.5]
                            [32.12,91]
                            [43.74,91.5]
                            [57.09,92]
                            [73.53,92.5]
                            [108.27,93]
                            [125.88,93.5]
                            [144.81,94]
                            [157.38,94.5]
*%-----------------|-------------------------------------------------------------|
*#***************************************************************************
*#      Catchment SW-1a
*#      - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
*#      - Undeveloped agricultural land
*#***************************************************************************
CONTINUOUS NASHYD   NHYD=["SW_1a"], DT=[1]min, AREA=[536.42](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[2.79]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain
before station 7245 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-Okeefe"], CINLET=[4.591](cms), NINLET=[1],
                    MajNHYD=["S-1-OkMJ"]
                    MinNHYD=["S-1-OkMN"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0     , 0.0 ]
                                    [ 0.5370, 1.7917 ]
                                    [    -1   ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1-OkSovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_416"], NHYDs to
add=["N_416"+"SW_1a"+"S-1-OkSR"+"S-1-OkSovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_416"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Highway 416 before Station 7245"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node 416 routed to Node at Okeefe drain
```

```
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
*#
ROUTE CHANNEL          NHYDout=["N_OK"] ,NHYDin=["SN_416"] ,
                       RDT=[1](min),
                       CHLGTH=[497](m),   CHSLOPE=[0.3018](%),
                                          FPSLOPE=[0.3018](%),
                       SECNUM=[1.0],      NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.075,-19.40
                         -0.055,19.40
                         0.075,377.02] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                       [-1061.41, 92.50]
                       [-945.91, 92.00]
                       [-783.64, 91.50]
                       [-136.74, 91.00]
                       [-86.04, 91.00]
                       [-20.86, 91.00]
                       [-20.18, 90.50]
                       [-19.40, 90.00]
                       [-11.68, 86.89]
                       [0.00, 86.10]
                       [12.09, 86.81]
                       [19.40, 90.00]
                       [34.68, 90.50]
                       [60.56, 91.00]
                       [170.14, 91.00]
                       [175.05, 90.50]
                       [180.29, 90.00]
                       [193.41, 90.00]
                       [195.98, 90.50]
                       [377.02, 92.50]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment OKEEFE
*#    - To O'Keefe drain (north of the Jock)
*#    - Developed with assumed 43% imp.
*#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
*#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
*%-----------------|-------------------------------------------------------------|
*POST DEVELOPMENT CONDITIONS
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
CONTINUOUS NASHYD      NHYD=["O-1"], DT=[1]min, AREA=[63.72](ha),
                       DWF=[0](cms), CN/C=[61], IA=[6.2](mm), N=[3], TP=[.9]hrs,
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),
                       SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
                       BaseFlowOption=[1] ,
                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                       VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|---------------------------------------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA 0-2
ROUTE CHANNEL          NHYDout=["O-1R"], NHYDin=["O-1"], RDT=[1](min),
                       CHLGTH=[960](m), CHSLOPE=[0.63](%), FPSLOPE=[0.63](%),
                       SECNUM=[1], NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=[0.06,4 -.043,6 0.06,10] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=[0.00, 2.0]
                       [0.0, 2.0]
                       [4.0, 0.0]
                       [6.0, 0.0]
```

```
                        [10.0, 2.0]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["O-2"], DT=[1]min, AREA=[28.61](ha),
                        DWF=[0](cms), CN/C=[57], IA=[5.2](mm), N=[3], TP=[1.1]hrs,
                       Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["O-4"], DT=[1]min, AREA=[46.94](ha),
                        DWF=[0](cms), CN/C=[49], IA=[9.2](mm), N=[3], TP=[0.9]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL EXTERNAL FLOW NORTH OF O'KEEFE CT. CROSSING
ADD HYD                 NHYDsum=["OKF-N"], NHYDs to add=["O-1R"+"O-2"+"O-4"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-6
ROUTE CHANNEL           ROUTE CHANNEL NHYDout=["OKF-NR"], NHYDin=["OKF-N"], RDT=[1](min),
                        CHLGTH=[210](m), CHSLOPE=[.81](%), FPSLOPE=[.81](%),
                        SECNUM=[1], NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=[0.043,22.43 -0.043,25.07
                        0.043,45.54] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=[0.00, 3.73]
                        (14.62, 1.56)
                        (18.41, 1.44)
                        (22.43, 0.00)
                        (25.07, 0.70)
                        (29.10, 1.79)
                        (33.73, 2.71)
                        (45.54, 3.58)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["O-6"], DT=[1]min, AREA=[16.46](ha),
                        DWF=[0](cms), CN/C=[43], IA=[9.2](mm), N=[3], TP=[0.7]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-3"], DT=[1](min), AREA=[39.67](ha), XIMP=[0.15],
TIMP=[0.30], DWF=[0](cms),
                        LOSS=[2], SCS curve number CN=[50], Pervious surfaces:
                        IAper=[4.67](mm), SLPP=[0.32](%),
                        LGP=[440](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                        IAimp=[1.57](mm), SLPI=[0.32](%),
                        LGI=[1880](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-5"], DT=[1](min), AREA=[60.63](ha), XIMP=[0.13],
```

```
TIMP=[0.26], DWF=[0](cms),
                        LOSS=[2], SCS curve number CN=[61],
                        Pervious surfaces: IAper=[4.67](mm), SLPP=[1.38](%),
                        LGP=[550](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                        IAimp=[1.57](mm), SLPI=[1.38](%),
                        LGI=[1450](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs), IaRECimp=[4](hrs),
                        SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs), END=-1
*%-----------------|-----------------------------------------------------------|
*TOTAL EXTERNAL FLOWS WEST OF THE SITE AND NORTH OF O'KEEFE CRT
*%-----------------|-----------------------------------------------------------|
ADD HYD                 NHYDsum=["PT1"], NHYDs to add=["OKF-NR"+"O-3"+"O-5"+"O-6"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["O-7"], DT=[1]min, AREA=[5.28](ha),
                        DWF=[0](cms), CN/C=[54], IA=[7.5](mm), N=[3], TP=[0.6]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr), END=-1
*%-----------------|-----------------------------------------------------------|
*ANALYSIS POINT 1 - TOTAL FLOW NORTH OF FALLOWFIELD DR. AND O'KEEFE CRT.
ADD HYD                 NHYDsum=["FF"], NHYDs to add=["PT1"+"O-7"]
*%-----------------|-----------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 1
ROUTE CHANNEL           NHYDout=["DRAIN1"], NHYDin=["FF"], RDT=[1](min),
                        CHLGTH=[302]{m), CHSLOPE=[1.00](%), FPSLOPE=[1.00](%),
                        SECNUM=[1], NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=[0.07,13.45 -0.043,16.55 0.07,30.00] NSEG
                        times
                        ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                        (3.45, 0.60)
                        (13.45, 0.50)
                        (14.45, 0.00)
                        (15.55, 0.00)
                        (16.55, 0.50)
                        (26.55, 0.60)
                        (30.00, 1.70)
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["D1"], DT=[1]min, AREA=[1.17](ha),
                        DWF=[0](cms), CN/C=[84], IA=[9.0](mm), N=[3], TP=[0.28]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm), SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr), END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A1"], DT=[1]min, AREA=[2.50](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                        Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
                        Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                        MNP=[0.250], SCP=[0](min),
                        Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                        LGI=[223.607](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
```

```
*%-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR        NHYDout=["A1-STR"], NHYDin=["A1"], RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.000 , 0.000 ]
                                    [ 0.035 , 0.038 ]
                                    [ 0.072 , 0.051 ]
                                    [ 0.100 , 0.059 ]
                                    [ 0.125 , 0.070 ]
                                    [ 0.160 , 0.074 ]
                                    [ 0.185 , 0.081 ]
                                    [ -1 , -1 ] (max twenty pts)
                                    NHYDovf=["A1-OVF"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-2"], DT=[1]min, AREA=[0.59](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[108.628](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR        NHYDout=["ST2STR"], NHYDin=["ST-2"], RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.000 , 0.0000 ]
                                    [ 0.052 , 0.0010 ]
                                    [ 0.053 , 0.0080 ]
                                    [ -1 , -1 ] (max twenty pts)
                                    NHYDovf=["ST2OVF"]
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
*TOTAL FLOW NORTH OF STRANDHERD DR. (EAST BRANCH) CROSSING
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD      NHYD=["O-8"], DT=[1]min, AREA=[60.55](ha),
                       DWF=[0](cms), CN/C=[69], IA=[4.0](mm), N=[3], TP=[1.0]hrs,
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),
                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs)
                       Baseflow simulation parameters:
                       BaseFlowOption=[1] ,
                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                       VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
ROUTE PIPE             PTYPE=[2]rect, NHYDout=["O8PIPE"], RNUMBER=[1], PWIDTH=[1800](mm),
PHEIGHT=[1200](mm), PLNGTH=[335.1](m),
                       PROUGH=[0.013], PSLOPE=[0.001](m/m), NHYDin=["O-8"], RDT=[1](min)
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
ADD HYD                NHYDsum=["ST2-IN"], NHYDs to
add=["DRAIN1"+"D1"+"A1-STR"+"A1-OVF"+"ST2STR"+"ST2OVF"+"O8PIPE"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A7"], DT=[1]min, AREA=[3.51](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[264.953](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
```

```
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs), END=-1
*%-----------------|----------------------------------------------------------|
ROUTE RESERVOIR         NHYDout=["A7-STR"], NHYDin=["A7"], RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.000 , 0.000 ]
                                      [ 0.049 , 0.054 ]
                                      [ 0.102 , 0.072 ]
                                      [ 0.140 , 0.082 ]
                                      [ 0.175 , 0.099 ]
                                      [ 0.225 , 0.105 ]
                                      [ 0.260 , 0.114 ]
                                      [ -1 , -1 ] (max twenty pts)
                                      NHYDovf=["A7-OVF"]
*%-----------------|----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-3"], DT=[1]min, AREA=[0.71](ha), XIMP=[0.46], TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                        Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
                        Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m), MNP=[0.250], SCP=[0](min),
                        Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[119.164](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs), END=-1
*%-----------------|----------------------------------------------------------|
ROUTE RESERVOIR         NHYDout=["ST3STR"], NHYDin=["ST-3"], RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.000 , 0.0000 ]
                                      [ 0.063 , 0.0010 ]
                                      [ 0.064 , 0.0094 ]
                                      [ -1 , -1 ] (max twenty pts)
                                      NHYDovf=["ST3OVF"]
*%-----------------|----------------------------------------------------------|
*ANALYSIS POINT 2 - TOTAL FLOW AT OUTLET OF STREET 2/3 INTERSECTION
*%-----------------|----------------------------------------------------------|
ADD HYD                 NHYDsum=["PT2ST3"], NHYDs to add=["ST2-IN"+"A7-STR"+"A7-OVF"+"ST3STR"+"ST3OVF"]
*%-----------------|----------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 2
ROUTE CHANNEL           NHYDout=["DRAIN2"], NHYDin=["PT2ST3"], RDT=[1](min),
                        CHLGTH=[592]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                                        SECNUM=[1], NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=[0.07,12.60 -0.043,17.40 0.07,30.00] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                        (2.60, 0.95)
                        (12.60, 0.75)
                        (14.10, 0.00)
                        (15.90, 0.00)
                        (17.40, 0.75)
                        (27.40, 0.95)
                        (30.00, 1.70)
*%-----------------|----------------------------------------------------------|
CONTINUOUS NASHYD       NHYD=["D2"], DT=[1]min, AREA=[2.28](ha), DWF=[0](cms), CN/C=[84], IA=[9.0](mm),
                        N=[3], TP=[0.99]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
```

```
                          InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A17"], DT=[1]min, AREA=[12.04](ha), XIMP=[0.68],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                          LGI=[490.714](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A17STR"], NHYDin=["A17"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [ 0.000 , 0.000 ]
                                       [ 0.169 , 0.185 ]
                                       [ 0.349 , 0.248 ]
                                       [ 0.482 , 0.283 ]
                                       [ 0.602 , 0.338 ]
                                       [ 0.771 , 0.359 ]
                                       [ 0.891 , 0.391 ]
                                       [ -1 , -1 ] (max twenty pts)
                                       NHYDovf=["A17OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-4"], DT=[1]min, AREA=[0.35](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[83.666](m),
                          MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST4STR"], NHYDin=["ST-4"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [ 0.000 , 0.0000 ]
                                       [ 0.031 , 0.0010 ]
                                       [ 0.032 , 0.0050 ]
                                       [ -1 , -1 ] (max twenty pts)
                                       NHYDovf=["ST4OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A18"], DT=[1]min, AREA=[5.30](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                          LGI=[325.576](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A18STR"], NHYDin=["A18"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [ 0.000 , 0.000 ]
                                       [ 0.074 , 0.082 ]
```

```
                                              [ 0.154 , 0.109 ]
                                              [ 0.212 , 0.125 ]
                                              [ 0.265 , 0.149 ]
                                              [ 0.339 , 0.158 ]
                                              [ 0.392 , 0.172 ]
                                              [ -1 , -1 ] (max twenty pts)
                                              NHYDovf=["A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 3 - TOTAL FLOW AT OUTLET OF STREET 4
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["PT3ST4"], NHYDs to
add=["DRAIN2"+"D2"+"A17STR"+"A17OVF"+"ST4STR"+"ST4OVF"+"A18STR"+"A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 3
ROUTE CHANNEL            NHYDout=["DRAIN3"], NHYDin=["PT3ST4"], RDT=[1](min),
                         CHLGTH=[525]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                         SECNUM=[1], NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=[0.07,12.50 -0.043,17.50 0.07,30.00] NSEG
                         times
                         ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                         (2.50, 1.00)
                         (12.50, 0.80)
                         (14.10, 0.00)
                         (15.90, 0.00)
                         (17.50, 0.80)
                         (27.50, 1.00)
                         (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD        NHYD=["D3"], DT=[1]min, AREA=[2.51](ha),
                         DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.73]hrs,
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[12](hrs)
                         Baseflow simulation parameters:
                         BaseFlowOption=[1] ,
                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C1"], DT=[1]min, AREA=[3.41](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                         Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                         F=[0.00](mm),
                         Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                         MNP=[0.250], SCP=[0](min),
                         Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                         LGI=[261.151](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                         END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR          NHYDout=["C1-STR"], NHYDin=["C1"], RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                              [ 0.000 , 0.000 ]
                                              [ 0.048 , 0.052 ]
                                              [ 0.099 , 0.070 ]
                                              [ 0.136 , 0.080 ]
                                              [ 0.170 , 0.096 ]
                                              [ 0.218 , 0.102 ]
                                              [ 0.252 , 0.111 ]
                                              [ -1 , -1 ] (max twenty pts)
                                              NHYDovf=["C1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-5"], DT=[1]min, AREA=[0.45](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
```

```
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[94.868](m),
                            MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR             NHYDout=["ST5STR"], NHYDin=["ST-5"], RDT=[1](min),
                                 TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                         [ 0.000 , 0.0000 ]
                                         [ 0.040 , 0.0010 ]
                                         [ 0.041 , 0.0062 ]
                                         [ -1 , -1 ] (max twenty pts)
                                         NHYDovf=["ST5OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["ST5-E"], NHYDs to
add=["DRAIN3"+"D3"+"C1-STR"+"C1-OVF"+"ST5STR"+"ST5OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["STRAND"], DT=[1](min), AREA=[7.59](ha),
                            XIMP=[0.64], TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[1230](m),
                            MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR             NHYDout=["S-POND"], NHYDin=["STRAND"], RDT=[1](min),
                                 TABLE of ( OUTFLOW-STORAGE ) values
                                           (cms) - (ha-m)
                                         [ 0.000 , 0.000 ]
                                         [ 0.033 , 0.188 ]
                                         [ 0.057 , 0.253 ]
                                         [ 0.104 , 0.287 ]
                                         [ 0.160 , 0.336 ]
                                         [ 0.340 , 0.346 ]
                                         [ 0.471 , 0.360 ]
                                         [ 0.824 , 0.390 ]
                                         [ -1 , -1 ] (max twenty pts)
                                         NHYDovf=["S-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["SSAOUT"], NHYDs to add=["ST5-E"+"S-POND"+"S-OVF"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                    NHYD=["SSAOUT"], # OF PCYCLES=[5], ICASEsh=[1]
                            HYD_COMMENT=["SSAOUT"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-A"], DT=[1]min, AREA=[66.75](ha), XIMP=[0.64],
TIMP=[0.80], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[1155.422](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-----------------|-------------------------------------------------------------|
SAVE HYD                    NHYD=["Area-A"], # OF PCYCLES=[1], ICASEsh=[1]
```

```
                          HYD_COMMENT=["SMWF-A Inflow"]
*%-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR           NHYDout=["SWMF-A"], NHYDin=["Area-A"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [ 0.000 , 0.000 ]
                                       [ 0.103 , 1.077 ]
                                       [ 0.128 , 1.749 ]
                                       [ 0.382 , 2.282 ]
                                       [ 0.703 , 2.582 ]
                                       [ 1.256 , 2.978 ]
                                       [ 1.567 , 3.202 ]
                                       [ 1.955 , 3.493 ]
                                       [ 2.100 , 3.600 ]
                                       [ -1 , -1 ] (max twenty pts)
                                       NHYDovf=["SWMAOV"]
*%-----------------|--------------------------------------------------------------|
SAVE HYD                  NHYD=["SWMF-A"], # OF PCYCLES=[1], ICASEsh=[1]
                          HYD_COMMENT=["SMWF-A Outflow"]
*%-----------------|--------------------------------------------------------------|
*ANALYSIS POINT 4 -  TOTAL FLOW AT OUTLET OF STREET 5
*%-----------------|--------------------------------------------------------------|
ADD HYD                   NHYDsum=["PT4ST5"], NHYDs to add=["SSAOUT"+"SWMF-A"+"SWMAOV"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C6"], DT=[1]min, AREA=[1.87](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                          LGI=[193.391](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR           NHYDout=["C6-STR"], NHYDin=["C6"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [ 0.000 , 0.000 ]
                                       [ 0.026 , 0.029 ]
                                       [ 0.054 , 0.038 ]
                                       [ 0.075 , 0.044 ]
                                       [ 0.093 , 0.052 ]
                                       [ 0.120 , 0.056 ]
                                       [ 0.138 , 0.061 ]
                                       [ -1 , -1 ] (max twenty pts)
                                       NHYDovf=["C6-OVF"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C7"], DT=[1]min, AREA=[1.62](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                          Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                          F=[0.00](mm),
                          Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                          LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR           NHYDout=["C7-STR"], NHYDin=["C7"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [ 0.000 , 0.000 ]
                                       [ 0.023 , 0.025 ]
```

```
                                     [ 0.047 , 0.033 ]
                                     [ 0.065 , 0.038 ]
                                     [ 0.081 , 0.045 ]
                                     [ 0.104 , 0.048 ]
                                     [ 0.120 , 0.053 ]
                                     [ -1 , -1 ] (max twenty pts)
                                     NHYDovf=["C7-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-6"], DT=[1]min, AREA=[0.41](ha),XIMP=[0.46], TIMP=[0.57],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[90.554](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST6STR"], NHYDin=["ST-6"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.0000 ]
                                 [ 0.036 , 0.0010 ]
                                 [ 0.037 , 0.0058 ]
                                 [ -1 , -1 ] (max twenty pts)
                                 NHYDovf=["ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 5 - TOTAL FLOW AT OUTLET OF STREET 6
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT5ST6"], NHYDs to
add=["PT4ST5"+"C6-STR"+"C6-OVF"+"C7-STR"+"C7-OVF"+"ST6STR"+"ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 4
ROUTE CHANNEL       NHYDout=["DRAIN4"], NHYDin=["PT5ST6"], RDT=[1](min),
                    CHLGTH=[324]{m), CHSLOPE=[.10](%), FPSLOPE=[.10](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.00 -0.043,18.00 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 2.00]
                    (2.00, 1.20)
                    (12.00, 1.00)
                    (14.00, 0.00)
                    (16.00, 0.00)
                    (18.00, 1.00)
                    (28.00, 1.20)
                    (30.00, 2.00)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D4"], DT=[1]min, AREA=[1.73](ha), DWF=[0](cms), CN/C=[88],
IA=[8.4](mm),
                    N=[3], TP=[0.60]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-B"], DT=[1]min, AREA=[24.04](ha), XIMP=[0.62],
TIMP=[0.77], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[1.4](%), LGP=[50](m),
```

```
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[1.4](%),
                          LGI=[693.397](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|------------------------------------------------------------|
ROUTE RESERVOIR           NHYDout=["SWMF-B"], NHYDin=["Area-B"], RDT=[1](min),
                               TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                     [ 0.000 , 0.000 ]
                                     [ 0.025 , 0.090 ]
                                     [ 0.175 , 0.510 ]
                                     [ 0.350 , 0.710 ]
                                     [ 0.495 , 0.820 ]
                                     [ 0.648 , 0.980 ]
                                     [ 0.965 , 1.045 ]
                                     [ 1.072 , 1.140 ]
                                     [ -1 , -1 ] (max twenty pts)
                                     NHYDovf=["SWMBOVF"]
*%-----------------|------------------------------------------------------------|
ADD HYD                   NHYDsum=["D4-EX"], NHYDs to add=["DRAIN4"+"D4"+"SWMF-B"+"SWMBOVF"]
*%-----------------|------------------------------------------------------------|
*ROUTE FLOW THROUGH O'Keefe Drain 5
* JFSA: Nov. 2020, added en points to close X-Section
ROUTE CHANNEL             NHYDout=["DRAIN5"], NHYDin=["D4-EX"], RDT=[1](min),
                          CHLGTH=[413.0](m), CHSLOPE=[0.16](%), FPSLOPE=[0.16](%),
                          SECNUM=[1], NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=[0.043,12.29 -0.033,17.97
                          0.043,32.84] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=(-0.01, 2.50)
                          [0.00, 1.41]
                          [6.13, 0.97]
                          [12.29, 0.89]
                          [15.71, 0.00]
                          [17.97, 0.39]
                          [23.04, 0.35]
                          [32.83, 0.96]
                          (32.84, 2.50)
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD         NHYD=["D5"], DT=[1]min, AREA=[1.90](ha),
                          DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.69]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
*EXTERNAL FLOWS SOUTHEAST OF THE SITE NORTH OF McKENNA CASEY DR.
CONTINUOUS NASHYD         NHYD=["O-13SDF"], DT=[1]min, AREA=[9.74](ha),
                          DWF=[0](cms), CN/C=[81], IA=[4.0](mm), N=[3], TP=[.43]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
*SNOW DISPOSAL FACILITY
*PARAMETERS BASED ON ROBINSON 2006 MODEL
ROUTE RESERVOIR           NHYDout=["SDF"], NHYDin=["O-13SDF"], RDT=[1](min),
```

```
                              TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [0.000,0.000]
                                      [0.150,0.600]
                                      (0.200,1.500)
                                      [ -1 , -1 ] (max twenty pts)
                                      NHYDovf=["OVFSDF"]
*%-----------------|------------------------------------------------------------|
*ANALYSIS POINT 6 - McKenna Casey Dr.
*%-----------------|------------------------------------------------------------|
ADD HYD              NHYDsum=["PT6MC"], NHYDs to add=["DRAIN5"+"D5"+"SDF"]
*%-----------------|------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["O-15"], DT=[1]min, AREA=[10.67](ha),
                     DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.30]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|------------------------------------------------------------|
*TOTAL FLOW NORTH OF McKENNA CASEY DR.
ADD HYD              NHYDsum=["M-C"], NHYDs to add=["PT6MC"+"O-15"]
*%-----------------|------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-14
* JFSA: Nov. 2020, added end points to close X-section
ROUTE CHANNEL        NHYDout=["O-14Ch"], NHYDin=["M-C"], RDT=[1](min),
                     CHLGTH=[845.3](m), CHSLOPE=[0.10](%), FPSLOPE=[0.10](%),
                     SECNUM=[1], NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=[0.06,15.00 -0.033,18.04 0.06,31.85] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=[-0.01, 2.5
                     (0.00, 1.53]
                     (5.56, 1.47)
                     (9.21, 1.45)
                     (12.45, 1.53)
                     (13.70, 1.50)
                     (15.00, 0.69)
                     (15.34, 0.00)
                     (16.51, 0.05)
                     (17.30, 0.17)
                     (18.04, 0.74)
                     (19.29, 1.32)
                     (22.73, 1.47)
                     (31.84, 1.41)
                     (31.85, 2.50)
*%-----------------|------------------------------------------------------------|
*%   -Change O-14 from NASHYD to STANDHYD, name it "S-1-Okeefe" and add it to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%   -JFSA 2021-02-16, add detailed subcatchment drainage area for each subcatchment in Corrigan sub-catchment. After adding part of  O-14 to S_1 sub-catchment so O-14 becomes 5 ha instead of 30.02 ha and TP becomes 0.133 (5*0.8/30.02) instead of 0.8
CONTINUOUS NASHYD    NHYD=["O-14"], DT=[1]min, AREA=[5](ha),
                     DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.133]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*
*%-----------------|------------------------------------------------------------|
```

```
*ANALYSIS POINT 7 - JOCK RIVER
* 2020-12-01 To Foster Drain
* 2020-12-01  replace ("PT7JR") by ("OKEEFE")
*%-----------------|-----------------------------------------------------------|
ADD HYD              NHYDsum=["OKEEFE"], NHYDs to add=["O-14Ch"+"O-14"]
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["OKEEFE"], DT=[1](min), AREA=[448](ha),
*                     XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                     SCS curve number CN=[77],
*                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                               LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                               LGI=[1728](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[18](hrs),   END=-1
*#*****************************************************************************
*#    Okeefe Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*****************************************************************************
*ROUTE RESERVOIR      NHYDout=["P_OKE"], NHYDin=["OKEEFE"],
*                     RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [    0.0  ,   0.0]
*                                  [   14.13 ,  13.0]
*                                  [    -1   ,   -1  ]  (maximum one hundred pairs of points)
*                                  NHYDovf=["ok-OVF"],
*%-----------------|-----------------------------------------------------------------------------
------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are
moved to drain before station 6215 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.120]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["S-1-D2"], CINLET=[2.097](cms), NINLET=[1],
                     MajNHYD=["S-1-D2J"]
                     MinNHYD=["S-1-D2N"]
                     TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD              NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|-----------------------------------------------------------|
```

```
ROUTE RESERVOIR        NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
                       RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.0      , 0.0 ]
                                      [ 0.2231,  0.7445 ]
                                      [    -1   ,   -1     ]  (max twenty pts)
                             NHYDovf=["S-1-D2Rovf"]
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                       LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                       IAper=[4.67](mm), SLPP=[2.0](%),
                       LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                       IAimp=[1.57](mm), SLPI=[0.75](%),
                       LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                       SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[12](hrs),    END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD      NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                       DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                       N=[3], TP=[1.281]hrs,
*                       Continuous simulation parameters:
*                       IaRECper=[4](hrs),
*                       SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                       InterEventTime=[12](hrs)
*                       Baseflow simulation parameters:
*                       BaseFlowOption=[1] ,
*                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                       VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD        NHYDin=["S-1-D3"], CINLET=[0.831](cms), NINLET=[1],
                       MajNHYD=["S-1-D3J"]
                       MinNHYD=["S-1-D3N"]
                       TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-----------------------------------------------------------|
ROUTE RESERVOIR        NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
                       RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.0      , 0.0 ]
                                      [ 0.0811,  0.2708 ]
                                      [    -1   ,   -1     ]  (max twenty pts)
                             NHYDovf=["S-1-D3Rovf"]
*%-----------------|-----------------------------------------------------------|
ADD HYD                NHYDsum=["SN_OK"], NHYDs to
add=["N_OK"+"OKEEFE"+"S-1-D2R"+"S-1-D3R"+"S-1-D2Rovf"+"S-1-D3Rovf"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD               NHYD=["SN_OK"],    # OF PCYCLES=[-1],  ICASEsh=[1]
                       HYD_COMMENT=["Total Flows at Okeefe Drain"]
*%-----------------|-----------------------------------------------------------|
*#
*# Hydrograph from Node Okeefe routed to Node at Foster Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
*#
ROUTE CHANNEL          NHYDout=["N_FO"] ,NHYDin=["SN_OK"] ,
                       RDT=[1](min),
                       CHLGTH=[1183](m),   CHSLOPE=[0.0761](%),
                                           FPSLOPE=[0.0761](%),
                       SECNUM=[1.0],          NSEG=[3]
                       ( SEGROUGH, SEGDIST (m))=
                         [0.050,-33.89
```

```
                         -0.035,31.59
                         0.050,34.41] NSEG times
                       ( DISTANCE (m), ELEVATION (m))=
                       [-794.18, 91.00]
                       [-775.41, 91.50]
                       [-702.63, 91.50]
                       [-546.19, 91.50]
                       [-529.54, 91.50]
                       [-323.44, 91.00]
                       [-320.71, 91.00]
                       [-183.59, 91.00]
                       [-182.54, 90.50]
                       [-181.36, 90.00]
                       [-177.37, 90.00]
                       [-87.70, 90.00]
                       [-33.89, 90.00]
                       [-18.52, 86.88]
                       [0.00,85.20]
                       [16.20, 86.83]
                       [31.59, 90.00]
                       [33.03, 90.50]
                       [34.41, 91.00]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment FOSTER
*#    - To Foster ditch (north of the Jock)
*#    - Partially developed (medium density); remaining agricultural
*#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
*#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (513.02 HA) so the total drainage area remains the same
*#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["FOSTER"], DT=[1]min, AREA=[325.44](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[1472.956](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*#*****************************************************************************
*#    Foster Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["P_FOS"],  NHYDin=["FOSTER"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [    0.0 ,   0.0 ]
                                    [    10.34 , 10]
                                    [    -1   ,   -1  ]  (max twenty pts)
                          NHYDovf=["FO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FOSTER-OUT"], NHYDs to add=["P_FOS"+"FO-OVF"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*    -Brazeau area from P 1800-19 =[71.751], change to 63.59 ha based on GIS measurements
*     -JFSA, 2021-01-19  update "W_CLAR_BRAZ" to 73.29 ha based on GIS measurements
*     -JFSA, 2021-01-22  Brazeau ("MS_P10"+"P10-OVF")brazeau pond discharges directly
```

```
to the jock river through a road side ditch on the west side of Borrisokane road
(station 6016)
CONTINUOUS STANDHYD NHYD=["W_CLAR_BRAZ"], DT=[1]min, AREA=[73.29](ha),
                    XIMP=[0.6], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[699.00](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
* 2020-12-01 correct pond curve values
ROUTE RESERVOIR     NHYDout=["MS_P10"],  NHYDin=["W_CLAR_BRAZ"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,   0.0 ]
                                  [ 0.068 , 0.001 ]
                                  [ 0.271 , 0.022 ]
                                  [ 0.379 , 0.051 ]
                                  [ 0.48 , 0.091 ]
                                  [ 0.853 , 0.341 ]
                                  [ 1.005 , 0.61 ]
                                  [ 1.128 , 1.231 ]
                                  [ 1.155 , 1.592 ]
                                  [ 1.194 , 1.876 ]
                                  [ 1.2 , 1.921 ]
                                  [ 1.259 , 2.369 ]
                                  [ 1.3 , 2.665 ]
                                  [ 1.349 , 2.813 ]
                                  [   -1  ,   -1  ]  (max twenty pts)
                          NHYDovf=["P10-OVF"]
*%-----------------|-----------------------------------------------------------|
*  -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain
before station 980 on Foster Drain
CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
                    MajNHYD=["S-1-FO-D2J"]
                    MinNHYD=["S-1-FO-D2N"]
                    TMJSTO=[9999999](cu-m)
```

```
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.0590, 0.1970 ]
                                   [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["980"], NHYDs to
add=["FOSTER-OUT"+"S-1-FO-D2R"+"S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["980"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Station 980 on Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
*#
ROUTE CHANNEL       NHYDout=["980-out"],NHYDin=["980"] ,
                    RDT=[1](min),
                    CHLGTH=[460](m),  CHSLOPE=[0.04348](%),
                                        FPSLOPE=[0.04348](%),
                    SECNUM=[1.0],         NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,45.90
                      -0.035,53.30
                      0.050,100] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [0, 91.75 ]
                    [42.4, 92.18 ]
                    [43.5, 92.16 ]
                    [44.1, 92.1 ]
                    [44.6, 92 ]
                    [44.8, 91.86 ]
                    [45.9, 91.04 ]
                    [46.4, 90.65 ]
                    [46.8, 90.36 ]
                    [47.9, 90.32 ]
                    [48.7, 90.35 ]
                    [50.7, 90.33 ]
                    [52.2, 90.38 ]
                    [52.5, 90.59 ]
                    [53.3, 91.28 ]
                    [54, 91.83 ]
                    [54.3, 92 ]
                    [54.8, 92.08 ]
                    [55.4, 92.12 ]
                    [100, 91.84 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain
before station 520 on Foster Drain
CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
```

```
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
                     MajNHYD=["S-1-FO-D1J"]
                     MinNHYD=["S-1-FO-D1N"]
                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [ 0.0     ,  0.0 ]
                                     [ 0.0611, 0.2038 ]
                                     [    -1  ,   -1    ]  (max twenty pts)
                           NHYDovf=["S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["520"], NHYDs to add=["980-out"+"S-1-FO-D1R"+"S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["520"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at Sation 520 on Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
*#
ROUTE CHANNEL        NHYDout=["520-out"] ,NHYDin=["520"] ,
                     RDT=[1](min),
                     CHLGTH=[860](m),  CHSLOPE=[0.5872](%),
                                         FPSLOPE=[0.5872](%),
                     SECNUM=[1.0],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.050,45.90
                       -0.035,54.3
                       0.050,100.1097] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                     [0, 91.26 ]
                     [44.9, 91.46 ]
                     [45.1, 91.37 ]
                     [45.9, 90.84 ]
                     [47, 90.32 ]
                     [47.5, 90.22 ]
                     [48, 90.17 ]
                     [50.7, 90.19 ]
                     [51.5, 90.17 ]
                     [52.2, 90.13 ]
                     [52.7, 90.12 ]
                     [53.3, 90.14 ]
                     [53.5, 90.31 ]
                     [53.9, 90.59 ]
                     [54.3, 90.87 ]
                     [54.7, 91.04 ]
                     [55.3, 91.24 ]
                     [55.5, 91.26 ]
                     [63.7, 91.37 ]
                     [100.1097, 91.43 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
                     XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[74],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                               LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                               LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
```

```
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                              SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
                              InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.007]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD       NHYDin=["S-1-FO-F-D"], CINLET=[1.615](cms), NINLET=[1],
                      MajNHYD=["S-1FO-F-DJ"]
                      MinNHYD=["S-1FO-F-DN"]
                      TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD               NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.0     , 0.0 ]
                                      [ 0.1788, 0.5966 ]
                                      [    -1   ,  -1     ]  (max twenty pts)
                            NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha), XIMP=[0.325],
TIMP=[0.65], DWF=[0](cms), LOSS=[1]:
                      Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                      F=[0.00](mm),
                      Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                      MNP=[0.250], SCP=[0](min),
                      Impervious areas: IAimp=[0.785](mm), SLPI=[0.75](%),
                      LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),   IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                      END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),   SMAX=[-1](mm),  SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD       NHYDin=["S-1-D8"], CINLET=[0.672](cms), NINLET=[1],
                      MajNHYD=["S-1-D8J"]
                      MinNHYD=["S-1-D8N"]
                      TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD               NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-------------------------------------------------------------|
```

```
*ADD HYD               NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD       NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                      MajNHYD=["S-1-D-MJ"]
*                      MinNHYD=["S-1-D-MN"]
*                      TMJSTO=[5974](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD               NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR       NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [ 0.0      , 0.0 ]
                                      [ 0.0630, 0.2102 ]
                                      [    -1   ,   -1    ]  (max twenty pts)
                            NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
CONTINUOUS NASHYD     NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
                      DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                      N=[3], TP=[0.619]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges directly to the jock river through a road side ditch on the west side of Borrisokane road (station 6016)
CONTINUOUS NASHYD     NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
                      DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                      N=[3], TP=[1.10]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD               NHYDsum=["SN_FO"], NHYDs to add=["N_FO"+"520-out"+"MS_P10"+"P10-OVF"+"W_CLAR_UNDE"+"S-1FoFDovf"+"S-1FO-F-DR"+"S-1-D8Rovf"+"S-1-D8R"+"S-1-A"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD              NHYD=["SN_FO"],    # OF PCYCLES=[-1],  ICASEsh=[1]
                      HYD_COMMENT=["Total Flows at Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Foster routed to Node at Cedarview Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
*#
ROUTE CHANNEL         NHYDout=["N_CE"] ,NHYDin=["SN_FO"] ,
                      RDT=[1](min),
                      CHLGTH=[159](m),   CHSLOPE=[0.0818](%),
                                           FPSLOPE=[0.0818](%),
                      SECNUM=[1.0],          NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.050,-15.46
                        -0.035,26.55
                        0.050,116.76] NSEG times
```

```
                          ( DISTANCE (m), ELEVATION (m))=
                          [-645.23, 91.50]
                          [-391.20, 91.50]
                          [-91.00, 91.50]
                          [-85.52, 91.50]
                          [-15.46, 89.40]
                          [-9.79, 89.31]
                          [-3.22, 86.24]
                          [3.22, 85.07]
                          [10.96, 85.79]
                          [16.44, 86.49]
                          [26.55, 89.45]
                          [29.03, 90.27]
                          [35.76, 90.67]
                          [36.67, 91.00]
                          [108.08, 91.00]
                          [109.82, 90.50]
                          [112.04, 90.50]
                          [114.62, 91.00]
                          [116.76, 91.50]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment S-1
*#     - To Jock River (north and south of Jock)
*#     - Primarily agricultural fields; portion of sand quarry
*%-----------------|-------------------------------------------------------------|
*%    -2020-12-17 "S-1-Undev" and "S-1-Fost" was a part of Foster drain, they are below the foster pond. Now they are added to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -2020-12-17 Change O-14 (it was part of Okeefe drain) to "S-1-Okeefe" and add it to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -2020-12-17 Add "S-1-BCDC" as NASHYD
*%    -2020-12-17 all other S-1 subcatchment as STANDHYD with DUALHYD and ROUTE RESERVOIR
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS NASHYD    NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[0.619]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD     NHYD=["S-1-B"], DT=[1]min, AREA=[55.36](ha),
                      DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                      N=[3], TP=[0.451]hrs,
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[12](hrs)
                      Baseflow simulation parameters:
                      BaseFlowOption=[1] ,
                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                      VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#     -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas compared to the old ones.
*CONTINUOUS NASHYD    NHYD=["S-1-BCDC"], DT=[1]min, AREA=[134.9](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
```

```
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and "S-1-BCDC-2" is part of "S-1-D2" and "S-1-D3"
*CONTINUOUS NASHYD        NHYD=["S-1-BCDC-1"], DT=[1]min, AREA=[0.3](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.10]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD        NHYD=["S-1-BCDC-2"], DT=[1]min, AREA=[1.3](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.10]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
*CONTINUOUS NASHYD        NHYD=["S-1-BCDC-3"], DT=[1]min, AREA=[3.9](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.10]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain before station 7245 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                         LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                         LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                         LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                         MajNHYD=["S-1-OkMJ"]
*                         MinNHYD=["S-1-OkMN"]
```

```
*                       TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD                NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR        NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                       RDT=[1](min),
*                             TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [ 0.0     , 0.0 ]
*                                       [ 0.5370, 1.7917 ]
*                                       [    -1  ,   -1    ]  (max twenty pts)
*                             NHYDovf=["S-1-OkSovf"]
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD      NHYD=["S-1-Okeefe"], DT=[1]min, AREA=[44.93](ha),
*                       DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                       N=[3], TP=[1.049]hrs,
*                       Continuous simulation parameters:
*                       IaRECper=[4](hrs),
*                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                       InterEventTime=[12](hrs)
*                       Baseflow simulation parameters:
*                       BaseFlowOption=[1] ,
*                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                       VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain
before station 520 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                       XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                       SCS curve number CN=[74],
*                       Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                               LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                       Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                               LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
*                       Continuous simulation parameters:
*                       IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                       InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*COMPUTE DUALHYD        NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                       MajNHYD=["S-1-FO-D1J"]
*                       MinNHYD=["S-1-FO-D1N"]
*                       TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
*ADD HYD                NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR        NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                       RDT=[1](min),
*                             TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [ 0.0     , 0.0 ]
*                                       [ 0.0611, 0.2038 ]
*                                       [    -1  ,   -1    ]  (max twenty pts)
*                             NHYDovf=["S-1FOD1ovf"]
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD      NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                       DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                       N=[3], TP=[1.10]hrs,
*                       Continuous simulation parameters:
*                       IaRECper=[4](hrs),
*                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                       InterEventTime=[12](hrs)
*                       Baseflow simulation parameters:
*                       BaseFlowOption=[1] ,
*                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                       VHydCond=[0.055](mm/hr),   END=-1
```

```
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain before station 980 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
*                    MajNHYD=["S-1-FO-D2J"]
*                    MinNHYD=["S-1-FO-D2N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0590, 0.1970 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.007]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
```

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*                         InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
*                         MajNHYD=["S-1FO-F-DJ"]
*                         MinNHYD=["S-1FO-F-DN"]
*                         TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                  NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR          NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
*                                         [ 0.0      , 0.0 ]
*                                         [ 0.1788, 0.5966 ]
*                                         [     -1   ,   -1     ]  (max twenty pts)
*                               NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D1"], DT=[1](min), AREA=[21.67](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[380.088](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD        NHYD=["S-1-D1"], DT=[1]min, AREA=[21.67](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.066]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm),  GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-D1"], CINLET=[2.409](cms), NINLET=[1],
                    MajNHYD=["S-1-D1J"]
                    MinNHYD=["S-1-D1N"]
                    TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-D1S"], NHYDs to add=["S-1-D1J"+"S-1-D1N"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-D1R"] ,NHYDin=["S-1-D1S"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0      , 0.0 ]
                                    [ 0.2590, 0.8642 ]
                                    [     -1   ,   -1     ]  (max twenty pts)
                          NHYDovf=["S-1-D1Rovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are
moved to drain before station 6215 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                         LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                         LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
```

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IAimp=[1.57](mm), SLPI=[0.75](%),
*                         LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.120]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                         MajNHYD=["S-1-D2J"]
*                         MinNHYD=["S-1-D2N"]
*                         TMISTO=[9999999](cu-m)
*%-----------------|--------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|--------------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
*                         RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
*                                         [ 0.0      , 0.0 ]
*                                         [ 0.2231, 0.7445 ]
*                                         [    -1   ,   -1    ]  (max twenty pts)
*                               NHYDovf=["S-1-D2Rovf"]
*%-----------------|--------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                         LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                         LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                         LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs),    END=-1
*%-----------------|--------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.281]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|--------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                         MajNHYD=["S-1-D3J"]
*                         MinNHYD=["S-1-D3N"]
*                         TMISTO=[9999999](cu-m)
*%-----------------|--------------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|--------------------------------------------------------------|
```

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*ROUTE RESERVOIR        NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                       RDT=[1](min),
*                             TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [ 0.0     , 0.0 ]
*                                       [ 0.0811, 0.2708 ]
*                                       [    -1   ,  -1    ]  (max twenty pts)
*                             NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D4"], DT=[1](min), AREA=[3.28](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[147.874](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD      NHYD=["S-1-D4"], DT=[1]min, AREA=[3.28](ha),
*                       DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                       N=[3], TP=[1.10]hrs,
*                       Continuous simulation parameters:
*                       IaRECper=[4](hrs),
*                       SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                       InterEventTime=[12](hrs)
*                       Baseflow simulation parameters:
*                       BaseFlowOption=[1] ,
*                       InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                       VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-D4"], CINLET=[0.421](cms), NINLET=[1],
                    MajNHYD=["S-1-D4J"]
                    MinNHYD=["S-1-D4N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-D4S"], NHYDs to add=["S-1-D4J"+"S-1-D4N"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-D4R"] ,NHYDin=["S-1-D4S"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0     , 0.0 ]
                                    [ 0.0392, 0.1308 ]
                                    [    -1   ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1-D4Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D5"], DT=[1](min), AREA=[12.84](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[292.57](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD      NHYD=["S-1-D5"], DT=[1]min, AREA=[12.84](ha),
*                       DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                       N=[3], TP=[1.10]hrs,
*                       Continuous simulation parameters:
*                       IaRECper=[4](hrs),
```

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*                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                            InterEventTime=[12](hrs)
*                            Baseflow simulation parameters:
*                            BaseFlowOption=[1] ,
*                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["S-1-D5"], CINLET=[1.5](cms), NINLET=[1],
                            MajNHYD=["S-1-D5J"]
                            MinNHYD=["S-1-D5N"]
                            TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["S-1-D5S"], NHYDs to add=["S-1-D5J"+"S-1-D5N"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR             NHYDout=["S-1-D5R"] ,NHYDin=["S-1-D5S"] ,
                            RDT=[1](min),
                                  TABLE of ( OUTFLOW-STORAGE ) values
                                              (cms) - (ha-m)
                                            [ 0.0     , 0.0 ]
                                            [ 0.1535, 0.5120 ]
                                            [    -1  ,   -1    ]   (max twenty pts)
                                  NHYDovf=["S-1-D5Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D6"], DT=[1](min), AREA=[1.75](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                            LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                            IAper=[4.67](mm), SLPP=[2.0](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                            IAimp=[1.57](mm), SLPI=[0.75](%),
                            LGI=[108.01](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD           NHYD=["S-1-D6"], DT=[1]min, AREA=[1.75](ha),
*                            DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
*                            N=[3], TP=[1.10]hrs,
*                            Continuous simulation parameters:
*                            IaRECper=[4](hrs),
*                            SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                            InterEventTime=[12](hrs)
*                            Baseflow simulation parameters:
*                            BaseFlowOption=[1] ,
*                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                            VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["S-1-D6"], CINLET=[0.232](cms), NINLET=[1],
                            MajNHYD=["S-1-D6J"]
                            MinNHYD=["S-1-D6N"]
                            TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["S-1-D6S"], NHYDs to add=["S-1-D6J"+"S-1-D6N"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR             NHYDout=["S-1-D6R"] ,NHYDin=["S-1-D6S"] ,
                            RDT=[1](min),
                                  TABLE of ( OUTFLOW-STORAGE ) values
                                              (cms) - (ha-m)
                                            [ 0.0     , 0.0 ]
                                            [ 0.0209, 0.0698 ]
                                            [    -1  ,   -1    ]   (max twenty pts)
                                  NHYDovf=["S-1-D6Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D7"], DT=[1](min), AREA=[2.03](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                            LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
```

```
                             IAper=[4.67](mm), SLPP=[2.0](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                             IAimp=[1.57](mm), SLPI=[0.75](%),
                             LGI=[116.33](m), MNI=[0.013], SCI=[0](min),
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                             SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                             InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D7"], DT=[1]min, AREA=[2.03](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["S-1-D7"], CINLET=[0.265](cms), NINLET=[1],
                     MajNHYD=["S-1-D7J"]
                     MinNHYD=["S-1-D7N"]
                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["S-1-D7S"], NHYDs to add=["S-1-D7J"+"S-1-D7N"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      NHYDout=["S-1-D7R"] ,NHYDin=["S-1-D7S"] ,
                     RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [ 0.0    , 0.0 ]
                                  [ 0.0243, 0.0810 ]
                                  [   -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1-D7Rovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1](min), AREA=[5.27](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                     LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                     LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                     LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                     MajNHYD=["S-1-D8J"]
*                     MinNHYD=["S-1-D8N"]
```

```
*                          TMISTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                   NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD                   NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD           NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                          MajNHYD=["S-1-D-MJ"]
*                          MinNHYD=["S-1-D-MN"]
*                          TMISTO=[5974](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD                   NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR           NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                          RDT=[1](min),
*                                TABLE of ( OUTFLOW-STORAGE ) values
*                                            (cms) - (ha-m)
*                                          [ 0.0     , 0.0 ]
*                                          [ 0.0630, 0.2102 ]
*                                          [    -1   ,   -1    ]   (max twenty pts)
*                                NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*      -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area
(W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*#    Catchment W_CLAR
*#    - To West Clarke Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on
P598(04)-11
*#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["W_CLAR_MJ"], DT=[1]min, AREA=[1.772](ha),
                    XIMP=[0.46], TIMP=[0.59], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[109](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD           NHYDin=["W_CLAR_MJ"], CINLET=[0.213](cms), NINLET=[1],
*                          MajNHYD=["W_CLAR_MJj"]
*                          MinNHYD=["W_CLAR_MJn"]
*                          TMISTO=[0.1](cu-m)
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
ROUTE RESERVOIR     NHYDout=["W_CLAR_MJn"] ,NHYDin=["W_CLAR_MJ"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0     , 0.0 ]
                                    [ 0.213 , 0.0001 ]
                                    [    -1   ,   -1    ]   (max twenty pts)
                          NHYDovf=["W_CLAR_MJj"] ,
*%-----------------|-------------------------------------------------------------|
*      -Clarke_All area from  P 598(04)-11 = 120.207 ha, change to 127.298 ha based on
GIS measurements,
*      -JFSA, 2021-01-19  update W_CLAR_ALL to (121.17-1.772=119.398) ha based on GIS
measurements W_CLAR is 121.17 ha and W_CLAR_MJ is 1.772 ha
CONTINUOUS STANDHYD NHYD=["W_CLAR_ALL"], DT=[1]min, AREA=[119.398](ha),
                    XIMP=[0.60], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
```

```
                      Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                      Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[892.18](m), MNI=[0.013], SCI=[0](min),
                      Continuous simulation parameters:
                      IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                      InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
ADD HYD               NHYDsum=["W_CLAR"], NHYDs to add=["W_CLAR_ALL"+"W_CLAR_MIj"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD              NHYD=["W_CLAR"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                      HYD_COMMENT=["Total Flows to West Clarke"]
*#****************************************************************************
*#    West Clarke Pond 2
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
*#****************************************************************************
ROUTE RESERVOIR       NHYDout=["MS_P2"],  NHYDin=["W_CLAR"],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,   0.0 ]
                                     [ 0.128 , 0.161 ]
                                     [ 0.138 , 0.409 ]
                                     [ 0.148 , 0.68 ]
                                     [ 0.227 , 0.931 ]
                                     [ 0.354 , 1.223 ]
                                     [ 0.505 , 1.52 ]
                                     [ 0.666 , 1.821 ]
                                     [ 0.831 , 2.123 ]
                                     [ 0.995 , 2.434 ]
                                     [ 1.069 , 2.583 ]
                                     [ 1.51 , 2.647 ]
                                     [ 4.904 , 2.861 ]
                                     [ 13.048 , 3.188 ]
                                     [ 23.745 , 3.523 ]
                                     [ 36.474 , 3.871 ]
                                     [ 45.938 , 4.127 ]
                                     [ 61.652 , 4.539 ]
                                     [   -1  ,   -1  ]  (max twenty pts)
                            NHYDovf=["P2-OVF"]
*%-----------------|-----------------------------------------------------------|
*#****************************************************************************
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
*CONTINUOUS NASHYD     NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
*                      DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                      N=[3], TP=[1.10]hrs,
*                      Continuous simulation parameters:
*                      IaRECper=[4](hrs),
*                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                      InterEventTime=[12](hrs)
*                      Baseflow simulation parameters:
*                      BaseFlowOption=[1] ,
*                      InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                      VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
ADD HYD               NHYDsum=["SN_CE"], NHYDs to
add=["N_CE"+"S-1-D4R"+"S-1-D5R"+"S-1-D4Rovf"+"S-1-D5Rovf"+"MS_P2"+"P2-OVF"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD              NHYD=["SN_CE"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                      HYD_COMMENT=["Total Flows before Station 5737 on Jock River"]
*%-----------------|-----------------------------------------------------------|
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
```

```
*# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model
T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\HEC-RAS\JockLidar2005
*# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
ROUTE CHANNEL           NHYDout=["5737"] ,NHYDin=["SN_CE"] ,
                        RDT=[1](min),
                        CHLGTH=[270](m),  CHSLOPE=[0.0175](%),
                                          FPSLOPE=[0.0175](%),
                        SECNUM=[1.0],         NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.050,-24.04
                          -0.035,23.92
                          0.050,1130.8] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                        [-1060.52, 94 ]
                        [-268.6, 91.5 ]
                        [-259.43, 91.5 ]
                        [-179.48, 91.5 ]
                        [-67.9, 91.5 ]
                        [-59.21, 91.5 ]
                        [-33.19, 91 ]
                        [-26.08, 90.5 ]
                        [-24.04, 90 ]
                        [-13.14, 86.77 ]
                        [0, 85 ]
                        [14.68, 86.74 ]
                        [23.92, 90 ]
                        [25.78, 90.5 ]
                        [31.91, 91 ]
                        [91.95, 91.5 ]
                        [772.15, 92 ]
                        [961.49, 92.5 ]
                        [1044.69, 93 ]
                        [1130.8, 95 ]
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["5002"], NHYDs to
add=["5737"+"S-1-D1R"+"S-1-D6R"+"S-1-D7R"+"S-1-D1Rovf"+"S-1-D6Rovf"+"S-1-D7Rovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                NHYD=["5002"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                        HYD_COMMENT=["Total Flows before Station 5002 on Jock River"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
*# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255
% so the model will be more stable and give reasonable results. It is justifiable as
ROUTE CHANNELs aren't well suited to really flat slopes.
*# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one
with 825 m length so the model will be more stable
*# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is
because of adding station 5737 between station 6016 and station 5002. Then the length
from station 5737 to station 5002 is 736 m. Change the slope from 0.0255 % to 0.09511 %
*
ROUTE CHANNEL           NHYDout=["N_WCa"] ,NHYDin=["5002"] ,
                        RDT=[1](min),
                        CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                          FPSLOPE=[0.09511](%),
                        SECNUM=[1.0],         NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.050,-37.5
                          -0.035,37.50
                          0.050,157.05] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                        [-601.81, 91.5]
                        [-37.50, 90.00]
                        [-19.61, 87.04]
                        [0.00, 85.70]
```

```
                          [14.87, 86.93]
                          [37.50, 90.00]
                          [38.54, 90.50]
                          [42.23, 91]
                          [157.05,91.50]
*                          [161.44, 91.50]
*                          [236.48, 93.00]
*                          [385.47, 92.50]
*                          [390.78, 92.50]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL             NHYDout=["N_WCb"] ,NHYDin=["N_WCa"] ,
                          RDT=[1](min),
                          CHLGTH=[245.33333](m),   CHSLOPE=[0.09511](%),
                                                    FPSLOPE=[0.09511](%),
                          SECNUM=[1.0],             NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=
                            [0.050,-37.5
                            -0.035,37.50
                            0.050,157.05] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                          [-601.81, 91.5]
                          [-37.50, 90.00]
                          [-19.61, 87.04]
                          [0.00, 85.70]
                          [14.87, 86.93]
                          [37.50, 90.00]
                          [38.54, 90.50]
                          [42.23, 91]
                          [157.05,91.50]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL             NHYDout=["N_WC"] ,NHYDin=["N_WCb"] ,
                          RDT=[1](min),
                          CHLGTH=[245.33333](m),   CHSLOPE=[0.09511](%),
                                                    FPSLOPE=[0.09511](%),
                          SECNUM=[1.0],             NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=
                            [0.050,-37.5
                            -0.035,37.50
                            0.050,157.05] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                          [-601.81, 91.5]
                          [-37.50, 90.00]
                          [-19.61, 87.04]
                          [0.00, 85.70]
                          [14.87, 86.93]
                          [37.50, 90.00]
                          [38.54, 90.50]
                          [42.23, 91]
                          [157.05,91.50]
*#****************************************************************************
*        -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area (W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*ADD HYD                   NHYDsum=["SN_WC"], NHYDs to add=["MS_P2"+"P2-OVF"+"N_WC"+"W_CLAR_UNDE"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD                  NHYD=["SN_WC"],    # OF PCYCLES=[-1],   ICASEsh=[1]
*                         HYD_COMMENT=["Total Flows at West Clarke Pond Outlet"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
*#
ROUTE CHANNEL             NHYDout=["N_KB"] ,NHYDin=["N_WC"] ,
                          RDT=[1](min),
                          CHLGTH=[1020](m),   CHSLOPE=[0.0498](%),
                                                    FPSLOPE=[0.0498](%),
                          SECNUM=[1.0],             NSEG=[3]
```

```
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-23.63
                      -0.035,23.63
                      0.050,728.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1082.01,94]
                    [-1028.17,92.5]
                    [-992.3,93.5]
                    [-279.34,90]
                    [-23.63,90]
                    [-13.45,87.13]
                    [-0.07,86.24]
                    [10.54,87.15]
                    [23.63,90]
                    [24.86,90.5]
                    [26.72,91]
                    [45.07,91.5]
                    [128.17,91.5]
                    [270.7,92.5]
                    [728.3,95]
*%-----------------|--------------------------------------------------------------|
*#******************************************************************************
*#     Catchment KEN_BU
*#     - To Kennedy-Burnett SWM Facility
*#     - Outlets to Fraser-Clarke drain (north of the Jock)
*#     - Medium density residential subdivision
*      - Add Kennedy Burnett model (Convert PCSWMM from NOVATECH June, 2020 to SWMHYMO)
*#******************************************************************************
*CONTINUOUS STANDHYD NHYD=["KEN_BU"], DT=[1]min, AREA=[281](ha),
*                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[71],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                            LGI=[1369](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|--------------------------------------------------------------|
*#******************************************************************************
*#   Existing Kennedy-Burnett SWM Facility
*#     - Rating curve obtained from URTKBP
*#     - Tributary Drainage Area to Pond = 160 ha
*#******************************************************************************
*ROUTE RESERVOIR     NHYDout=["KEN_P"],  NHYDin=["KEN_BU"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                    [    0.0 ,   0.0 ]
*                                    [    0.13 ,  0.26]
*                                    [    0.43 ,  0.56]
*                                    [    0.67 ,  0.90]
*                                    [    0.86 ,  1.32]
*                                    [    1.01 ,  1.79]
*                                    [    1.15 ,  2.33]
*                                    [    -1   ,  -1  ]  (max twenty pts)
*                          NHYDovf=["KEN-OV"]
*%-----------------|--------------------------------------------------------------|
*      -JFSA, 2021-01-19  update all KEN_BU areas based on GIS measurements
CONTINUOUS STANDHYD NHYD=["KB-01A"], DT=[1]min, AREA=[40.82](ha), XIMP=[0.097],
TIMP=[0.4], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
```

```
                            Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                            LGI=[521.664](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-------------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["KB-01A"], CINLET=[3.6](cms), NINLET=[1],
                            MajNHYD=["KB-01A-MJ"]
                            MinNHYD=["KB-01A-MN"]
                            TMJSTO=[4995](cu-m)
*%-------------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["KB-01A-S"], NHYDs to add=["KB-01A-MJ"+"KB-01A-MN"]
*%-------------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01B"], DT=[1]min, AREA=[31.1](ha), XIMP=[0.1875],
TIMP=[0.375], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[0.42](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[0.785](mm), SLPI=[0.42](%),
                            LGI=[455.339](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-------------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["KB-01B"], CINLET=[1.585](cms), NINLET=[1],
                            MajNHYD=["KB-01B-MJ"]
                            MinNHYD=["KB-01B-MN"]
                            TMJSTO=[6075](cu-m)
*%-------------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["KB-01B-S"], NHYDs to add=["KB-01B-MJ"+"KB-01B-MN"]
*%-------------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01C"], DT=[1]min, AREA=[13.78](ha), XIMP=[0.2045],
TIMP=[0.409], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                            LGI=[303.095](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-------------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["KB-01C"], CINLET=[1.35](cms), NINLET=[1],
                            MajNHYD=["KB-01C-MJ"]
                            MinNHYD=["KB-01C-MN"]
                            TMJSTO=[1880](cu-m)
*%-------------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["KB-01C-S"], NHYDs to add=["KB-01C-MJ"+"KB-01C-MN"]
*%-------------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-03"], DT=[1]min, AREA=[84.78](ha), XIMP=[0.197],
TIMP=[0.394], DWF=[0](cms), LOSS=[1]:
                            Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                            F=[0.00](mm),
                            Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                            MNP=[0.250], SCP=[0](min),
                            Impervious areas: IAimp=[0.785](mm), SLPI=[0.63](%),
                            LGI=[751.798](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                            END=-1
*%-------------------|-------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["KB-03"], CINLET=[5.27](cms), NINLET=[1],
                            MajNHYD=["KB-03-MJ"]
                            MinNHYD=["KB-03-MN"]
```

```
                             TMJSTO=[15500](cu-m)
*%-----------------|----------------------------------------------------------|
ADD HYD                      NHYDsum=["KB-03-S"], NHYDs to add=["KB-03-MJ"+"KB-03-MN"]
*%-----------------|----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-04"], DT=[1]min, AREA=[6.95](ha), XIMP=[0.85],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                             Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                             F=[0.00](mm),
                             Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                             MNP=[0.250], SCP=[0](min),
                             Impervious areas: IAimp=[0.942](mm), SLPI=[0.5](%),
                             LGI=[215.252](m), MNI=[0.013], SCI=[0](min),
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                             END=-1
*%-----------------|----------------------------------------------------------|
COMPUTE DUALHYD              NHYDin=["KB-04"], CINLET=[0.503](cms), NINLET=[1],
                             MajNHYD=["KB-04-MJ"]
                             MinNHYD=["KB-04-MN"]
                             TMJSTO=[1972](cu-m)
*%-----------------|----------------------------------------------------------|
ADD HYD                      NHYDsum=["KB-04-S"], NHYDs to add=["KB-04-MJ"+"KB-04-MN"]
*%-----------------|----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-05"], DT=[1]min, AREA=[5.19](ha), XIMP=[0.93],
TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                             Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                             F=[0.00](mm),
                             Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                             MNP=[0.250], SCP=[0](min),
                             Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                             LGI=[186.011](m), MNI=[0.013], SCI=[0](min),
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                             END=-1
*%-----------------|----------------------------------------------------------|
*%-----------------|----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-06"], DT=[1]min, AREA=[12.93](ha), XIMP=[0.873],
TIMP=[0.873], DWF=[0](cms), LOSS=[1]:
                             Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                             F=[0.00](mm),
                             Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                             MNP=[0.250], SCP=[0](min),
                             Impervious areas: IAimp=[0.942](mm), SLPI=[4.75](%),
                             LGI=[293.598](m), MNI=[0.013], SCI=[0](min),
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                             END=-1
*%-----------------|----------------------------------------------------------|
COMPUTE DUALHYD              NHYDin=["KB-06"], CINLET=[2.262](cms), NINLET=[1],
                             MajNHYD=["KB-06-MJ"]
                             MinNHYD=["KB-06-MN"]
                             TMJSTO=[1950](cu-m)
*%-----------------|----------------------------------------------------------|
ADD HYD                      NHYDsum=["KB-06-S"], NHYDs to add=["KB-06-MJ"+"KB-06-MN"]
*%-----------------|----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-11"], DT=[1]min, AREA=[4.03](ha), XIMP=[0.675],
TIMP=[0.675], DWF=[0](cms), LOSS=[1]:
                             Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                             F=[0.00](mm),
                             Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                             MNP=[0.250], SCP=[0](min),
                             Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                             LGI=[163.911](m), MNI=[0.013], SCI=[0](min),
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                             END=-1
```

```
*%-----------------|--------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["KB-11"], CINLET=[0.5773](cms), NINLET=[1],
                     MajNHYD=["KB-11-MJ"]
                     MinNHYD=["KB-11-MN"]
                     TMJSTO=[597](cu-m)
*%-----------------|--------------------------------------------------------------|
ADD HYD              NHYDsum=["KB-11-S"], NHYDs to add=["KB-11-MJ"+"KB-11-MN"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S1"], DT=[1]min, AREA=[4.99](ha), XIMP=[0.93], TIMP=[0.93],
DWF=[0](cms), LOSS=[1]:
                     Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                     F=[0.00](mm),
                     Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                     MNP=[0.250], SCP=[0](min),
                     Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                     LGI=[182.392](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                     END=-1
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-15"], DT=[1]min, AREA=[2.15](ha), XIMP=[0.79],
TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
                     Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                     F=[0.00](mm),
                     Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                     MNP=[0.250], SCP=[0](min),
                     Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                     LGI=[119.722](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                     END=-1
*%-----------------|--------------------------------------------------------------|
*%-----------------|--------------------------------------------------------------|
ADD HYD              NHYDsum=["KB-P1"], NHYDs to
add=["KB-01A-S"+"KB-01B-S"+"KB-01C-S"+"KB-03-S"+"KB-04-S"+"KB-05"+"KB-06-S"+"KB-11-S"+"KB
-15"+"S1"]
*%-----------------|--------------------------------------------------------------|
ROUTE RESERVOIR      NHYDout=["KB-P1R"],  NHYDin=["KB-P1"],
                     RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,   0.0 ]
                                  [0.076,0.003]
                                  [0.088,0.006]
                                  [0.136,0.011]
                                  [0.301,0.017]
                                  [0.454,0.027]
                                  [0.631,0.041]
                                  [1.173,0.068]
                                  [1.91,0.111]
                                  [4.847,0.231]
                                  [9.813,0.436]
                                  [12.134,0.617]
                                  [12.438,0.732]
                                  [12.424,0.811]
                                  [12.425,0.894]
                                  [   -1  ,   -1  ]  (max twenty pts)
                          NHYDovf=["KB-P1ovf"]
*%-----------------|--------------------------------------------------------------|
ADD HYD              NHYDsum=["KB-Pond1"], NHYDs to add=["KB-P1R"+"KB-P1ovf"]
*%-----------------|--------------------------------------------------------------|
SAVE HYD             NHYD=["KB-Pond1"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|--------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-07"], DT=[1]min, AREA=[10.86](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
```

```
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                              LGI=[269.072](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["KB-07"], CINLET=[2.094](cms), NINLET=[1],
                              MajNHYD=["KB-07-MJ"]
                              MinNHYD=["KB-07-MN"]
                              TMJSTO=[1378](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                       NHYDsum=["KB-07-S"], NHYDs to add=["KB-07-MJ"+"KB-07-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-08"], DT=[1]min, AREA=[6.61](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                              LGI=[209.921](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["KB-08"], CINLET=[1.058](cms), NINLET=[1],
                              MajNHYD=["KB-08-MJ"]
                              MinNHYD=["KB-08-MN"]
                              TMJSTO=[787](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                       NHYDsum=["KB-08-S"], NHYDs to add=["KB-08-MJ"+"KB-08-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-09"], DT=[1]min, AREA=[2.6](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                              LGI=[131.656](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_1"], DT=[1]min, AREA=[2.37](ha),  XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                              LGI=[125.698](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_2"], DT=[1]min, AREA=[1.14](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
```

```
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%), LGI=[87.178](m),
                              MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-12"], DT=[1]min, AREA=[4.86](ha), XIMP=[0.79],
TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[1.099](mm), SLPI=[2.0](%),
                              LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["KB-12"], CINLET=[0.8665](cms), NINLET=[1],
                              MajNHYD=["KB-12-MJ"]
                              MinNHYD=["KB-12-MN"]
                              TMJSTO=[632](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                       NHYDsum=["KB-12-S"], NHYDs to add=["KB-12-MJ"+"KB-12-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-13"], DT=[1]min, AREA=[10.19](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                              LGI=[260.640](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["KB-13"], CINLET=[1.722](cms), NINLET=[1],
                              MajNHYD=["KB-13-MJ"]
                              MinNHYD=["KB-13-MN"]
                              TMJSTO=[1077](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                       NHYDsum=["KB-13-S"], NHYDs to add=["KB-13-MJ"+"KB-13-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-14"], DT=[1]min, AREA=[5.47](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                              Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                              F=[0.00](mm),
                              Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                              MNP=[0.250], SCP=[0](min),
                              Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                              LGI=[190.962](m), MNI=[0.013], SCI=[0](min),
                              Continuous simulation parameters:
                              IaRECper=[4](hrs), IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                              END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD               NHYDin=["KB-14"], CINLET=[0.8734](cms), NINLET=[1],
                              MajNHYD=["KB-14-MJ"]
                              MinNHYD=["KB-14-MN"]
                              TMJSTO=[631](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                       NHYDsum=["KB-14-S"], NHYDs to add=["KB-14-MJ"+"KB-14-MN"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
```

```
CONTINUOUS STANDHYD NHYD=["KB-16_2"], DT=[1]min, AREA=[3.42](ha), XIMP=[0.71],
TIMP=[0.71], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[150.997](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-P2"], NHYDs to
add=["KB-Pond1"+"KB-07-S"+"KB-08-S"+"KB-09"+"KB-10_1"+"KB-10_2"+"KB-12-S"+"KB-13-S"+"KB-1
4-S"+"KB-16_2"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["KB-P2R"],  NHYDin=["KB-P2"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,   0.0 ]
                                    [0.053,0.005]
                                    [0.132,0.009]
                                    [0.269,0.014]
                                    [0.455,0.023]
                                    [0.699,0.037]
                                    [0.947,0.056]
                                    [1.853,0.09]
                                    [2.712,0.146]
                                    [6.626,0.287]
                                    [11.228,0.515]
                                    [14.885,0.738]
                                    [16.473,0.893]
                                    [17.311,0.998]
                                    [17.633,1.063]
                                    [17.634,1.112]
                                    [   -1  ,   -1  ]  (max twenty pts)
                          NHYDovf=["KB-P2ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond2"], NHYDs to add=["KB-P2R"+"KB-P2ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond2"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB second pond"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-16_1"], DT=[1]min, AREA=[2.8](ha), XIMP=[0.75],
TIMP=[0.75], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[136.626](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-P3"], NHYDs to add=["KB-Pond2"+"KB-16_1"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
* One inflow node from pond 3 is added to the model (ROUTE RESERVOIR)
* Another inflow node from right side of pond 3 is not added to the model
ROUTE RESERVOIR     NHYDout=["KB-P3R"],  NHYDin=["KB-P3"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [   0.0 ,   0.0 ]
```

```
                                          [0.051,0.002]
                                          [0.048,0.003]
                                          [0.057,0.029]
                                          [0.089,0.045]
                                          [0.133,0.069]
                                          [0.199,0.106]
                                          [0.321,0.172]
                                          [1.029,0.306]
                                          [4.036,0.527]
                                          [8.332,0.761]
                                          [11.727,0.941]
                                          [14.125,1.067]
                                          [15.675,1.149]
                                          [16.555,1.196]
                                          [16.911,1.214]
                                          [   -1  ,   -1  ]    (max twenty pts)
                               NHYDovf=["KB-P3ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond3"], NHYDs to add=["KB-P3R"+"KB-P3ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond3"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB third pond"]
*%-----------------|-------------------------------------------------------------|
*#****************************************************************************
*#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM
Modeling Approach, NOVATECH Report June, 2020)
*#    - TO FRASER-CLARKE DRAIN
*#****************************************************************************
CONTINUOUS STANDHYD NHYD=["FC-01"], DT=[1]min, AREA=[8.03](ha), XIMP=[0.47],
TIMP=[0.47], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[231.373](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-01"], CINLET=[0.756](cms), NINLET=[1],
                    MajNHYD=["FC-01-MJ"]
                    MinNHYD=["FC-01-MN"]
                    TMJSTO=[714](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-01-S"], NHYDs to add=["FC-01-MJ"+"FC-01-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-02"], DT=[1]min, AREA=[16.05](ha), XIMP=[0.93],
TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[327.109](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-02"], CINLET=[1.159](cms), NINLET=[1],
                    MajNHYD=["FC-02-MJ"]
                    MinNHYD=["FC-02-MN"]
                    TMJSTO=[2385](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-02-S"], NHYDs to add=["FC-02-MJ"+"FC-02-MN"]
*%-----------------|-------------------------------------------------------------|
```

```
CONTINUOUS STANDHYD NHYD=["FC-03"], DT=[1]min, AREA=[7.37](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[221.660](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-03"], CINLET=[0.358](cms), NINLET=[1],
                    MajNHYD=["FC-03-MJ"]
                    MinNHYD=["FC-03-MN"]
                    TMJSTO=[1131](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-03-S"], NHYDs to add=["FC-03-MJ"+"FC-03-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-04"], DT=[1]min, AREA=[12.87](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[292.916](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-04"], CINLET=[0.741](cms), NINLET=[1],
                    MajNHYD=["FC-04-MJ"]
                    MinNHYD=["FC-04-MN"]
                    TMJSTO=[1794](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-04-S"], NHYDs to add=["FC-04-MJ"+"FC-04-MN"]
*%-----------------|-------------------------------------------------------------|
*#******************************************************************************
*#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling
Approach, NOVATECH Report June, 2020)
*#    - TO JOCK RIVER
*#******************************************************************************
CONTINUOUS STANDHYD NHYD=["JR-01"], DT=[1]min, AREA=[8.24](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[234.379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["JR-01"], CINLET=[0.563](cms), NINLET=[1],
                    MajNHYD=["JR-01-MJ"]
                    MinNHYD=["JR-01-MN"]
                    TMJSTO=[1040](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["JR-01-S"], NHYDs to add=["JR-01-MJ"+"JR-01-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["JR-02"], DT=[1]min, AREA=[1.59](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
```

```
                          Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                          MNP=[0.250], SCP=[0](min),
                          Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                          LGI=[102.956](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                          END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD           NHYDin=["JR-02"], CINLET=[0.153](cms), NINLET=[1],
                          MajNHYD=["JR-02-MJ"]
                          MinNHYD=["JR-02-MN"]
                          TMJSTO=[153](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                   NHYDsum=["JR-02-S"], NHYDs to add=["JR-02-MJ"+"JR-02-MN"]
*%-----------------|-----------------------------------------------------------|
*#****************************************************************************
*#     Catchment FRASER
*#     - To Fraser-Clarke drain (north of the Jock)
*#     - Developed land with assumed 43% imp.
*#     - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
*#     - 2020-12-17 All Fraser is undeveloped (Nashyd)
*#****************************************************************************
CONTINUOUS NASHYD         NHYD=["FRASER-DRN"], DT=[1]min, AREA=[13.65](ha),
                          DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                          N=[3], TP=[0.4258]hrs,
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[12](hrs)
                          Baseflow simulation parameters:
                          BaseFlowOption=[1] ,
                          InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                          VHydCond=[0.055](mm/hr),   END=-1
*
CONTINUOUS STANDHYD NHYD=["FRASER-D"], DT=[1]min, AREA=[21.61](ha),
                          XIMP=[0.585], TIMP=[0.585], DWF=[0](cms), LOSS=[2],
                          SCS curve number CN=[80],
                          Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                  LGP=[40](m), MNP=[0.25], SCP=[0](min),
                          Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                  LGI=[379.561](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD           NHYDin=["FRASER-D"], CINLET=[2.281](cms), NINLET=[1],
                          MajNHYD=["FRASER-J"]
                          MinNHYD=["FRASER-N"]
                          TMJSTO=[9999999](cu-m)
*%-----------------|-----------------------------------------------------------|
ADD HYD                   NHYDsum=["FRASER-S"], NHYDs to add=["FRASER-J"+"FRASER-N"]
*%-----------------|-----------------------------------------------------------|
*ROUTE RESERVOIR           NHYDout=["MS_P20"],  NHYDin=["FRASER"],
*                          RDT=[1](min),
*                               TABLE of ( OUTFLOW-STORAGE ) values
*                                          (cms) - (ha-m)
*                                        [    0.0 ,   0.0 ]
*                                        [    0.04 ,  0.36]
*                                        [    -1  ,   -1  ]  (max twenty pts)
*                               NHYDovf=["P20-OVF"]
*%-----------------|-----------------------------------------------------------|
ADD HYD                   NHYDsum=["4241"], NHYDs to
add=["KB-Pond3"+"S-1-B"+"FRASER-DRN"+"FRASER-S"+"N_KB"+"FC-01-S"+"FC-02-S"+"FC-03-S"]
*%-----------------|-----------------------------------------------------------|
SAVE HYD                  NHYD=["4241"],   # OF PCYCLES=[-1],  ICASEsh=[1]
```

```
                         HYD_COMMENT=["Total Flows at Ken-Burnett Outlet"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Ken-Burnett to station 3633
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
*#
ROUTE CHANNEL            NHYDout=["4241-out"], NHYDin=["4241"],   RDT=[1](min),
                         CHLGTH=[294](m),   CHSLOPE=[0.1088](%), FPSLOPE=[0.1088](%),
                         SECNUM=[1.0],        NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=[0.05, -20.12
                                                  -0.035, 45.26
                                                   0.05, 403.84] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=[]
                         [-909.72, 95 ]
                         [-907.09, 94.5 ]
                         [-904.65, 94 ]
                         [-902.26, 93.5 ]
                         [-44.51, 91.5 ]
                         [-25.1, 91.5 ]
                         [-20.98, 91 ]
                         [-20.61, 90.5 ]
                         [-20.12, 90 ]
                         [-6.13, 87.26 ]
                         [17.51, 86.56 ]
                         [31.37, 87.2 ]
                         [45.26, 90 ]
                         [50.41, 90.5 ]
                         [63.06, 91 ]
                         [134.5, 91.5 ]
                         [190.63, 92 ]
                         [251.98, 92.5 ]
                         [321.32, 93.5 ]
                         [403.84, 95 ]
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["SN_KB"], NHYDs to
add=["4241-out"+"FC-04-S"+"JR-01-S"+"JR-02-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["SN_KB"],    # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["Total Flows before Station 3633"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Station 3633 to Node Todd
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
*# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and
change the slope from 0.0498% to 0.24671%  That is because of adding station 4241
between station 4534 and  station 3633
*#
ROUTE CHANNEL            NHYDout=["N_TO"], NHYDin=["SN_KB"],   RDT=[1](min),
                         CHLGTH=[608](m),   CHSLOPE=[0.24671](%), FPSLOPE=[0.24671](%),
                         SECNUM=[1.0],        NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=[0.05, -23.74
                                                  -0.035, 23.74
                                                   0.05, 26.50] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=[]
                         -29.24, 91.0
                         -27.41, 90.5
                         -25.64, 90
                         -23.74, 89.5
                         -22, 89.26
                         -20, 88.51
                         -19, 88.32
                         -15, 88.1
                         -10, 88.11
                         -5, 88.17
                         0, 88.27
                         5, 88.19
                         10, 88.06
                         15, 88.48
```

```
                          16, 88.7
                          23.74, 89.5
                          24.68, 90
                          25.57, 90.5
                          26.50, 91.0
*                                          [-29.24, 91]
*                                          [-27.41, 90.5]
*                                          [-25.64, 90]
*                                          [-23.74, 89.5]
*                                          [-22, 89. 26]
*                                          [-20, 88.51]
*                                          [-19, 88.32]
*                                          [-15, 88.1]
*                                          [-10, 88.11]
*                                          [-5, 88.17]
*                                          [0, 88.27]
*                                          [5, 88.19]
*                                          [10, 88.06]
*                                          [15, 88.48]
*                                          [16, 88.7]
*                                          [23.74, 89.5]
*                                          [24.68, 90]
*                                          [25.57, 90.5]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment Greenbank
*#     - To Greenbank Drain (south of the Jock)
*#     - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
*#     - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["Greenbank"], DT=[1]min, AREA=[36.6](ha),
                    XIMP=[0.639], TIMP=[0.682], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[493.96](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["GreenB_MN"] ,NHYDin=["Greenbank"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                  [     0.0 , 0.0     ]
                                  [ 0.033 , 0.084 ]
                                  [ 0.039 , 0.201 ]
                                  [ 0.113 , 0.292 ]
                                  [ 0.237 , 0.386 ]
                                  [ 0.382 , 0.484 ]
                                  [ 0.539 , 0.585 ]
                                  [ 0.7 , 0.692 ]
                                  [ 0.86 , 0.804 ]
                                  [ 4.684 , 0.922 ]
                                  [ 11.539 , 1.052 ]
                                  [ 20.867 , 1.168 ]
                                  [ 103.616 , 1.974 ]
                                  [     -1   ,   -1     ]  (max twenty pts)
                          NHYDovf=["GreenB_MJ"] ,
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["GreenB"], NHYDs to add=["N_TO"+"GreenB_MJ"+"GreenB_MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["GreenB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
```

```
                          HYD_COMMENT=["Total Flows at Greenbank Drain"]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment TODD
*#    - To Todd Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 increase imp. based on P598(04)-11
*#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
*#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
*#*************************************************************************
*#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MI") and remove it from Todd
*CONTINUOUS STANDHYD NHYD=["TODD_MN1"], DT=[1]min, AREA=[1.772](ha),
*                     XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
*                     SCS curve number CN=[77],
*                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                            LGI=[108.689](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN2"], DT=[1]min, AREA=[2.1](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[118.322](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN3"], DT=[1]min, AREA=[0.117](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[27.928](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MJ"], DT=[1]min, AREA=[30.230](ha),
                    XIMP=[0.52], TIMP=[0.64], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[448.925](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA, 2021-01-19  update "TODD_ALL" area from 108.741 ha to 112.908 ha based on GIS measurements (148.41-30.23-0.117-2.1-3.055=112.908 ha)
CONTINUOUS STANDHYD NHYD=["TODD_ALL"], DT=[1]min, AREA=[112.908](ha),
                    XIMP=[0.52], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
```

```
                          Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                 LGP=[40](m), MNP=[0.25], SCP=[0](min),
                          Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                 LGI=[867.594](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_P"], DT=[1]min, AREA=[3.055](ha),
                          XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                          SCS curve number CN=[77],
                          Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                 LGP=[40](m), MNP=[0.25], SCP=[0](min),
                          Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                 LGI=[142.712](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*%-----------------|-----------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1" and its parameters remain the same.
*CONTINUOUS STANDHYD NHYD=["TODD_DEVL"], DT=[1]min, AREA=[15.87](ha),
*                         XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
*                         SCS curve number CN=[77],
*                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                                LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now is called "corr2" and its parameters remain the same.
*CONTINUOUS NASHYD   NHYD=["TODD_UnD"], DT=[1]min, AREA=[12.47](ha),
*                         DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                         N=[3], TP=[1.10]hrs,
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),
*                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[12](hrs)
*                         Baseflow simulation parameters:
*                         BaseFlowOption=[1] ,
*                         InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                         VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD      NHYDin=["TODD_MJ"], CINLET=[3.314](cms), NINLET=[1],
*                         MajNHYD=["TODD_MJj"]
*                         MinNHYD=["TODD_MJn"]
*                         TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR      NHYDout=["TODD_MJn"] ,NHYDin=["TODD_MJ"] ,
                          RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                          (cms) - (ha-m)
                                        [    0.0 ,  0.0    ]
                                        [  3.314  ,  0.0001 ]
                                        [    -1   ,   -1    ]  (max twenty pts)
                                NHYDovf=["TODD_MJj"] ,
*%-----------------|-----------------------------------------------------------|
*# 5-Year + 12% Capture
```

```
*COMPUTE DUALHYD        NHYDin=["TODD_MN1"], CINLET=[0.227](cms), NINLET=[1],
*                       MajNHYD=["TODD_MN1j"]
*                       MinNHYD=["TODD_MN1n"]
*                       TMISTO=[0.1](cu-m)
*ROUTE RESERVOIR        NHYDout=["TODD_MN1n"] ,NHYDin=["TODD_MN1"] ,
*                       RDT=[1](min),
*                             TABLE of ( OUTFLOW-STORAGE ) values
*                                         (cms) - (ha-m)
*                                       [    0.0 ,  0.0    ]
*                                       [  0.227  ,  0.0001 ]
*                                       [    -1  ,   -1    ]  (max twenty pts)
*                             NHYDovf=["TODD_MN1j"] ,
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD        NHYDin=["TODD_MN2"], CINLET=[0.268](cms), NINLET=[1],
*                       MajNHYD=["TODD_MN2j"]
*                       MinNHYD=["TODD_MN2n"]
*                       TMISTO=[0.1](cu-m)
ROUTE RESERVOIR        NHYDout=["TODD_MN2n"] ,NHYDin=["TODD_MN2"] ,
                       RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [    0.0 ,  0.0    ]
                                       [  0.268  ,  0.0001 ]
                                       [    -1  ,   -1    ]  (max twenty pts)
                             NHYDovf=["TODD_MN2j"] ,
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD        NHYDin=["TODD_MN3"], CINLET=[0.016](cms), NINLET=[1],
*                       MajNHYD=["TODD_MN3j"]
*                       MinNHYD=["TODD_MN3n"]
*                       TMISTO=[0.1](cu-m)
ROUTE RESERVOIR        NHYDout=["TODD_MN3n"] ,NHYDin=["TODD_MN3"] ,
                       RDT=[1](min),
                             TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [    0.0 ,  0.0    ]
                                       [  0.016  ,  0.0001 ]
                                       [    -1  ,   -1    ]  (max twenty pts)
                             NHYDovf=["TODD_MN3j"] ,
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the major system from A2 can be added to Todd
CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
                       XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                       SCS curve number CN=[75],
                       Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                       Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[566](m), MNI=[0.013], SCI=[0](min),
                       Continuous simulation parameters:
                       IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                       SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                       InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD        NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
                       MajNHYD=["A2-MJ"]
                       MinNHYD=["A2-MN"]
                       TMISTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                NHYDsum=["TODD"], NHYDs to
add=["TODD_MN2n"+"TODD_MN3n"+"TODD_MJj"+"TODD_P"+"TODD_ALL"+"W_CLAR_MJn"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD               NHYD=["TODD"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                       HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Todd Pond 3
```

```
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
*#*************************************************************************
ROUTE RESERVOIR         NHYDout=["MS_P3"],   NHYDin=["TODD"],
                        RDT=[1](min),
                              TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [    0.0 ,   0.0 ]
                                       [ 0.014 , 0.155 ]
                                       [ 0.048 , 0.394 ]
                                       [ 0.061 , 0.56 ]
                                       [ 0.08 , 0.909 ]
                                       [ 0.088 , 1.089 ]
                                       [ 0.109 , 1.652 ]
                                       [ 0.118 , 1.952 ]
                                       [ 0.122 , 2.099 ]
                                       [ 1.972 , 2.269 ]
                                       [ 9.135 , 2.598 ]
                                       [ 15.608 , 2.826 ]
                                       [ 19.256 , 2.942 ]
                                       [ 27.282 , 3.181 ]
                                       [ 40.957 , 3.55 ]
                                       [ 56.372 , 3.929 ]
                                       [ 73.349 , 4.317 ]
                                       [ 85.469 , 4.579 ]
                                       [ 104.771 , 4.977 ]
                                       [    -1   ,   -1   ]  (max twenty pts)
                              NHYDovf=["P3-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                 NHYDsum=["SN_TO"], NHYDs to
add=["GreenB"+"MS_P3"+"P3-OVF"+"TODD_MN2j"+"A2-MI"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                NHYD=["SN_TO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                        HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Todd Drain routed to Corrigan Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 % so
the model will be more stable and give reasonable results. It is justifiable as ROUTE
CHANNELs aren't well suited to really flat slopes.
*
ROUTE CHANNEL           NHYDout=["N_TO"] ,NHYDin=["SN_TO"] ,
                        RDT=[1](min),
                        CHLGTH=[280](m),   CHSLOPE=[0.05](%),
                                           FPSLOPE=[0.05](%),
                        SECNUM=[1.0],        NSEG=[3]
                        ( SEGROUGH, SEGDIST (m))=
                          [0.075,-17.72
                          -0.045,17.72
                          0.075,80.62] NSEG times
                        ( DISTANCE (m), ELEVATION (m))=
                        [-83.32, 90.00]
                        [-81.36, 89.50]
                        [-79.12, 89.00]
                        [-76.13, 88.50]
                        [-20.46, 88.00]
                        [-19.36, 87.50]
                        [-18.51, 87.00]
                        [-17.72, 86.50]
                        [-11.95, 85.24]
                        [-0.11, 85.12]
                        [11.49, 85.20]
                        [17.72, 86.50]
                        [19.74, 87.00]
                        [21.22, 87.50]
```

```
                        [22.68, 88.00]
                        [24.28, 88.50]
                        [26.79, 89.00]
                        [71.98, 90.00]
                        [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                NHYD=["N_TO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                        HYD_COMMENT=["Total inflows at Station 2462"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment CORRIG
*#    - To Corrigan Drain (south of the Jock)
*#    - Primarily Developed (medium density)
*#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
*#*****************************************************************************
*ROUTE RESERVOIR         NHYDout=["MS_P1"],   NHYDin=["CORRIG"],
*                        RDT=[1](min),
*                              TABLE of ( OUTFLOW-STORAGE ) values
*                                           (cms) - (ha-m)
*                                         [    0.0 ,   0.0 ]
*                                         [    0.06 ,  0.58]
*                                         [    -1  ,   -1  ]  (max twenty pts)
*                              NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD                 NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD                NHYD=["SN_CO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
*                        HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it
drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1"
and its parameters remain the same.
CONTINUOUS STANDHYD NHYD=["corr1"], DT=[1]min, AREA=[15.87](ha),
                        XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                        SCS curve number CN=[77],
                        Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                LGP=[40](m), MNP=[0.25], SCP=[0](min),
                        Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*      -JFSA 2021-02-23 add DUALHYD for "corr1". "corr1" DUALHYD Parameters are the
same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to "corr1".
*       At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for
A1-Corrig
COMPUTE DUALHYD         NHYDin=["corr1"], CINLET=[1.818](cms), NINLET=[1],
                        MajNHYD=["corr1-MJ"]
                        MinNHYD=["corr1-MN"]
                        TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now
is called "corr2" and its parameters remain the same.
CONTINUOUS NASHYD       NHYD=["corr2"], DT=[1]min, AREA=[12.47](ha),
                        DWF=[0](cms), CN/C=[77],   IA=[4.67](mm),
                        N=[3], TP=[1.10]hrs,
                        Continuous simulation parameters:
                        IaRECper=[4](hrs),
                        SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                        InterEventTime=[12](hrs)
                        Baseflow simulation parameters:
                        BaseFlowOption=[1] ,
                        InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                        VHydCond=[0.055](mm/hr),    END=-1
```

```
*%-----------------|-----------------------------------------------------------|
*     -JFSA 2021-01-19 change A1-Corrig to be developed as per geoottawa website and apply the parameters of A2, the nearest sub-catchment to A1-Corrig, LGI is calculated based on A1-Corrig area
*     -JFSA 2021-01-19 update all Corrigan areas based on GIS measurements, and keep LGI as it is from Corrigan Report, IBI Group, 2008 because LGI calculated is less than LGI from the Corrigan Report
CONTINUOUS STANDHYD NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[324.037](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*
*      -JFSA 2021-01-25 add DUALHYD for A1-Corrig. A1-Corrig DUALHYD Parameters are the same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to A1-Corrig.
*       At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for A1-Corrig
COMPUTE DUALHYD     NHYDin=["A1-Corrig"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["A1-MJ"]
                    MinNHYD=["A1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-----------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
*                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
*                    N=[3.0], TP=[0.36]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["B1"], DT=[1]min, AREA=[2.77](ha),
                    DWF=[0](cms),  CN/C=[56], IA=[2.5](mm),
                    N=[3.0], TP=[0.23]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-----------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A4"], DT=[1]min, AREA=[1.27](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[253](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A4"], CINLET=[0.405](cms), NINLET=[1],
                    MajNHYD=["A4-MJ"]
```

```
                            MinNHYD=["A4-MN"]
                            TMJSTO=[68](cu-m)
*%-----------------|-----------------------------------------------------------------|
ADD HYD                     NHYDsum=["MH101"], NHYDs to
add=["A1-MJ"+"A1-MN"+"corr1-MJ"+"corr1-MN"+"corr2"+"B1"+"A4-MN"]
*%-----------------|-----------------------------------------------------------------|
SAVE HYD                    NHYD=["MH101"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                            HYD_COMMENT=["Total Flows at MH101"]
*%-----------------|-----------------------------------------------------------------|
ROUTE PIPE                  PTYPE=[1]circ, NHYDout=["101-102"], RNUMBER=[1.0], PDIAM=[1050](mm),
                            PLNGTH=[368](m), PROUGH=[0.013], PSLOPE=[0.0054](m/m),
                            NHYDin=["MH101"], RDT=[1]
*%-----------------|-----------------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the
major system from A2 can be added to Todd
*CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
*                     XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
*                     SCS curve number CN=[75],
*                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                              LGI=[566](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
*                     MajNHYD=["A2-MJ"]
*                     MinNHYD=["A2-MN"]
*                     TMJSTO=[924](cu-m)
*%-----------------|-----------------------------------------------------------------|
ADD HYD                     NHYDsum=["MH102"], NHYDs to add=["A2-MN"+"101-102"]
*%-----------------|-----------------------------------------------------------------|
SAVE HYD                    NHYD=["MH102"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                            HYD_COMMENT=["Total Flows at MH102"]
*%-----------------|-----------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A5"], DT=[1]min, AREA=[1.6](ha),
                            XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                            SCS curve number CN=[75],
                            Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                     LGP=[40](m), MNP=[0.25], SCP=[0](min),
                            Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                     LGI=[300](m), MNI=[0.013], SCI=[0](min),
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                            SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------------|
ADD HYD                     NHYDsum=["A5T"], NHYDs to add=["A4-MJ"+"A5"]
*%-----------------|-----------------------------------------------------------------|
COMPUTE DUALHYD             NHYDin=["A5T"], CINLET=[0.357](cms), NINLET=[1],
                            MajNHYD=["A5-MJ"]
                            MinNHYD=["A5-MN"]
                            TMJSTO=[60](cu-m)
*%-----------------|-----------------------------------------------------------------|
*   -JFSA Jan. 2021, A3 is a part of Todd so it is removed
*   -JFSA Jan. 2021, "A2-MJ" added to "Todd"
*CONTINUOUS STANDHYD NHYD=["A3"], DT=[1]min, AREA=[18.4](ha),
*                     XIMP=[0.58], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                     SCS curve number CN=[75],
*                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                              LGI=[450](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
```

```
*                         IaRECper=[4](hrs),   IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*ADD HYD                  NHYDsum=["A3-A2MJ"], NHYDs to add=["A2-MJ"+"A3"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["A3-A2MJ"], CINLET=[2.208](cms), NINLET=[1],
*                         MajNHYD=["A3R-MJ"]
*                         MinNHYD=["A3R-MN"]
*                         TMJSTO=[908](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["102-103"], RNUMBER=[1.0], PDIAM=[1500](mm),
                         PLNGTH=[504](m), PROUGH=[0.013], PSLOPE=[0.0028](m/m),
                         NHYDin=["MH102"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["MH103"], NHYDs to add=["102-103"+"A5-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["MH103"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                         HYD_COMMENT=["Total Flows at MH103"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["103-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                         PLNGTH=[438](m), PROUGH=[0.013], PSLOPE=[0.0046](m/m),
                         NHYDin=["MH103"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD      NHYD=["A6"], DT=[1]min, AREA=[1.56](ha),
                         XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[75],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                 LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                 LGI=[280](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["A6T"], NHYDs to add=["A5-MJ"+"A6"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["A6T"], CINLET=[0.357](cms), NINLET=[1],
                         MajNHYD=["A6-MJ"]
                         MinNHYD=["A6-MN"]
                         TMJSTO=[60](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA Jan. 2021, A7-corrig is a part of Todd so it is removed
*CONTINUOUS STANDHYD NHYD=["A7-corrig"], DT=[1]min, AREA=[11.8](ha),
*                         XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
*                         SCS curve number CN=[75],
*                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                                 LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                                 LGI=[438](m), MNI=[0.013], SCI=[0](min),
*                         Continuous simulation parameters:
*                         IaRECper=[4](hrs),   IaRECimp=[4](hrs),
*                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                         InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*ADD HYD                  NHYDsum=["A7-A3RMJ"], NHYDs to add=["A3R-MJ"+"A7-corrig"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD          NHYDin=["A7-A3RMJ"], CINLET=[1.003](cms), NINLET=[1],
*                         MajNHYD=["A7R-MJ"]
*                         MinNHYD=["A7R-MN"]
*                         TMJSTO=[496](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["MH104"], NHYDs to add=["A6-MN"+"103-104"+"TODD_MJn"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["MH104"],    # OF PCYCLES=[-1],   ICASEsh=[1]
```

```
                         HYD_COMMENT=["Total Flows at MH104"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B2"], DT=[1]min, AREA=[12.31](ha),
                         XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[75],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[417](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["B2"], CINLET=[1.029](cms), NINLET=[1],
                         MajNHYD=["B2-MJ"]
                         MinNHYD=["B2-MN"]
                         TMJSTO=[508](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["315-333"], RNUMBER=[1.0], PDIAM=[1200](mm),
                         PLNGTH=[254](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                         NHYDin=["B2-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B3"], DT=[1]min, AREA=[5.59](ha),
                         XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[75],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[345](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD          NHYDin=["B3"], CINLET=[0.459](cms), NINLET=[1],
                         MajNHYD=["B3-MJ"]
                         MinNHYD=["B3-MN"]
                         TMJSTO=[227](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                  NHYDsum=["MH333"], NHYDs to add=["B3-MN"+"315-333"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                 NHYD=["MH333"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                         HYD_COMMENT=["Total Flows at MH333"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["333-335"], RNUMBER=[1.0], PDIAM=[1200](mm),
                         PLNGTH=[251](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                         NHYDin=["MH333"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["335-338"], RNUMBER=[1.0], PDIAM=[1200](mm),
                         PLNGTH=[185](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                         NHYDin=["333-335"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE               PTYPE=[1]circ, NHYDout=["338-340"], RNUMBER=[1.0], PDIAM=[1350](mm),
                         PLNGTH=[233](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                         NHYDin=["335-338"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B4"], DT=[1]min, AREA=[7.6](ha),
                         XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[75],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                   LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                   LGI=[388](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
```

```
                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),    END=-1
*%-----------------|------------------------------------------------------------|
COMPUTE DUALHYD           NHYDin=["B4"], CINLET=[0.655](cms), NINLET=[1],
                          MajNHYD=["B4-MJ"]
                          MinNHYD=["B4-MN"]
                          TMJSTO=[323](cu-m)
*%-----------------|------------------------------------------------------------|
ADD HYD                   NHYDsum=["MH340"], NHYDs to add=["338-340"+"B4-MN"]
*%-----------------|------------------------------------------------------------|
SAVE HYD                  NHYD=["MH340"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at MH340"]
*%-----------------|------------------------------------------------------------|
ROUTE PIPE                PTYPE=[1]circ, NHYDout=["340-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                          PLNGTH=[240](m), PROUGH=[0.013], PSLOPE=[0.0015](m/m),
                          NHYDin=["MH340"], RDT=[1]
*%-----------------|------------------------------------------------------------|
ADD HYD                   NHYDsum=["MH104T"], NHYDs to add=["340-104"+"MH104"]
*%-----------------|------------------------------------------------------------|
ROUTE PIPE                PTYPE=[2]rect, NHYDout=["104-105"], RNUMBER=[1.0],
PWIDTH=[2400](mm)   by PHEIGHT=[2100](mm),
                          PLNGTH=[380](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                          NHYDin=["MH104T"], RDT=[1]
*%-----------------|-----------------------------------------------------------------------
------------------------------|
CONTINUOUS STANDHYD       NHYD=["B5"], DT=[1]min, AREA=[2.2](ha),
                          XIMP=[0.57], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                          SCS curve number CN=[75],
                          Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                    LGP=[40](m), MNP=[0.25], SCP=[0](min),
                          Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                    LGI=[187](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),    END=-1
*%-----------------|------------------------------------------------------------|
COMPUTE DUALHYD           NHYDin=["B5"], CINLET=[0.260](cms), NINLET=[1],
                          MajNHYD=["B5-MJ"]
                          MinNHYD=["B5-MN"]
                          TMJSTO=[250](cu-m)
*%-----------------|------------------------------------------------------------|
CONTINUOUS STANDHYD       NHYD=["A8"], DT=[1]min, AREA=[0.96](ha),
                          XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                          SCS curve number CN=[75],
                          Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                    LGP=[40](m), MNP=[0.25], SCP=[0](min),
                          Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                    LGI=[186](m), MNI=[0.013], SCI=[0](min),
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                          SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),    END=-1
*%-----------------|------------------------------------------------------------|
ADD HYD                   NHYDsum=["A8T"], NHYDs to add=["A6-MJ"+"A8"]
*%-----------------|------------------------------------------------------------|
COMPUTE DUALHYD           NHYDin=["A8T"], CINLET=[0.238](cms), NINLET=[1],
                          MajNHYD=["A8-MJ"]
                          MinNHYD=["A8-MN"]
                          TMJSTO=[40](cu-m)
*%-----------------|------------------------------------------------------------|
ADD HYD                   NHYDsum=["MH105"], NHYDs to
add=["104-105"+"B5-MN"+"A8-MN"+"TODD_MN3j"]
*%-----------------|------------------------------------------------------------|
SAVE HYD                  NHYD=["MH105"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at MH105"]
```

```
*%-----------------|-------------------------------------------------------------|
DIVERT HYD          NHYDin=["A8-MJ"] NIDout=[2]max five,
                    outflow hydrographs (NHYDs)=["A8-MJ-JR" "A8-MJ-B6"]
                    flow distribution table: (modify as necessary)
                    Note: all flows are in (cms)
                      QIDi  +  QIDii   =  QTOTAL
                    [    0  +     0    =     0    ]                   ]
                    [   50  +    50    =   100    ] end
*%-----------------|--------------------------------------------------------------------------------------------------|
DIVERT HYD          NHYDin=["MH105"] NIDout=[2]max five,
                    outflow hydrographs (NHYDs)=["MH105-JR"  "MH105-B6"]
                    flow distribution table: (modify as necessary)
                    Note: all flows are in (cms)
                      QIDi  +  QIDii   =  QTOTAL
                    [    0  +     0    =     0    ]
                    [    0  +   3.0  =   3.0   ]
                    [  96.9+  3.1    =   100   ] end
*%-----------------|--------------------------------------------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B7"], DT=[1]min, AREA=[7.19](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[211](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["B7-B4MJ"], NHYDs to add=["B4-MJ"+"B7"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B7-B4MJ"], CINLET=[0.629](cms), NINLET=[1],
                    MajNHYD=["B7R-MJ"]
                    MinNHYD=["B7R-MN"]
                    TMJSTO=[311](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["360-106A"], RNUMBER=[1.0], PDIAM=[1050](mm),
                    PLNGTH=[167](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["B7R-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-19 change B6 to be developed as per geoottawa website and apply the
parameters of A7, the nearest sub-catchment to B6, LGI is calculated based on B6 area
CONTINUOUS STANDHYD NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[148.099](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-25   add B1 DUALHYD as per Corrigan Report, IBI Group, 2008
COMPUTE DUALHYD     NHYDin=["B6"], CINLET=[0.064](cms), NINLET=[1],
                    MajNHYD=["B6-MJ"]
                    MinNHYD=["B6-MN"]
                    TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD    NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
*                     DWF=[0](cms),   CN/C=[75], IA=[2.5](mm),
*                     N=[3.0], TP=[0.36]hrs,
```

```
*                              Continuous simulation parameters:
*                              IaRECper=[4](hrs),
*                              SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
*                              InterEventTime=[12](hrs)
*                              Baseflow simulation parameters:
*                              BaseFlowOption=[1] ,
*                              InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                              VHydCond=[0.055](mm/hr),    END=-1
*%-----------------|-------------------------------------------------------------|
*%    -EX-LAND is external land. It is a part of JOCKVA sub-catchment as per Corrigan
Report, IBI Group, 2008
CONTINUOUS STANDHYD NHYD=["EX-LAND"], DT=[1]min, AREA=[32.5](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious    surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[465.475](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["EX-LAND"], CINLET=[2.275](cms), NINLET=[1],
                    MajNHYD=["EX-LAND-MJ"]
                    MinNHYD=["EX-LAND-MN"]
                    TMJSTO=[1365](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["B6-B7ExMJ"], NHYDs to
add=["B7R-MJ"+"EX-LAND-MJ"+"B5-MJ"+"B6-MJ"+"B6-MN"+"A8-MJ-B6"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B6-B7ExMJ"], CINLET=[0.064](cms), NINLET=[1],
                    MajNHYD=["B6R-MJ"]
                    MinNHYD=["B6R-MN"]
                    TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["105-106A"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[208](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH105-B6"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH106A"], NHYDs to
add=["360-106A"+"105-106A"+"B6R-MN"+"B6R-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH106A"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH106A"]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH106 is called MH117/106 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["106A-106"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[190](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH106A"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A9"], DT=[1]min, AREA=[2.44](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious    surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[262](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),   IaRECimp=[4](hrs),
                    SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A9"], CINLET=[0.547](cms), NINLET=[1],
```

```
                             MajNHYD=["A9-MJ"]
                             MinNHYD=["A9-MN"]
                             TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                      NHYDsum=["MH106"], NHYDs to add=["106A-106"+"A9-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                     NHYD=["MH106"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                             HYD_COMMENT=["Total Flows at MH106"]
*%-----------------|-------------------------------------------------------------|
*%   -JFSA 2021-01-12 THE MANHOLE MH107 is called MH118/107 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE                   PTYPE=[1]circ, NHYDout=["106-107"], RNUMBER=[1.0], PDIAM=[1800](mm),
                             PLNGTH=[122.5](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                             NHYDin=["MH106"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A10"], DT=[1]min, AREA=[4.14](ha),
                             XIMP=[0.35], TIMP=[0.47], DWF=[0](cms), LOSS=[2],
                             SCS curve number CN=[75],
                             Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                     LGP=[40](m), MNP=[0.25], SCP=[0](min),
                             Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                     LGI=[183](m), MNI=[0.013], SCI=[0](min),
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                             SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                             InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD              NHYDin=["A10"], CINLET=[0.310](cms), NINLET=[1],
                             MajNHYD=["A10-MJ"]
                             MinNHYD=["A10-MN"]
                             TMJSTO=[228](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A11"], DT=[1]min, AREA=[10.61](ha),
                             XIMP=[0.53], TIMP=[0.62], DWF=[0](cms), LOSS=[2],
                             SCS curve number CN=[75],
                             Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                     LGP=[40](m), MNP=[0.25], SCP=[0](min),
                             Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                     LGI=[379](m), MNI=[0.013], SCI=[0](min),
                             Continuous simulation parameters:
                             IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                             SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                             InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD              NHYDin=["A11"], CINLET=[0.993](cms), NINLET=[1],
                             MajNHYD=["A11-MJ"]
                             MinNHYD=["A11-MN"]
                             TMJSTO=[556](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD                      NHYDsum=["MH107"], NHYDs to add=["106-107"+"A10-MN"+"A11-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                     NHYD=["MH107"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                             HYD_COMMENT=["Total Flows at MH107"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE                   PTYPE=[1]circ, NHYDout=["107-119"], RNUMBER=[1.0], PDIAM=[1800](mm),
                             PLNGTH=[114](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                             NHYDin=["MH107"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*%   -JFSA 2021-01-12 THE MANHOLE MH108 is called MH120/108 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE                   PTYPE=[1]circ, NHYDout=["119-108"], RNUMBER=[1.0], PDIAM=[1800](mm),
                             PLNGTH=[65.8](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                             NHYDin=["107-119"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
```

```
CONTINUOUS STANDHYD NHYD=["A12"], DT=[1]min, AREA=[12.29](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A12"], CINLET=[1.029](cms), NINLET=[1],
                    MajNHYD=["A12-MJ"]
                    MinNHYD=["A12-MN"]
                    TMJSTO=[672](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A13"], DT=[1]min, AREA=[2.59](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A13"], CINLET=[0.571](cms), NINLET=[1],
                    MajNHYD=["A13-MJ"]
                    MinNHYD=["A13-MN"]
                    TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-01-22 add the Corrigan pond area ("Pond-Block")
CONTINUOUS STANDHYD NHYD=["Pond-Block"], DT=[1]min, AREA=[2.94](ha),
                    XIMP=[0.415], TIMP=[0.415], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                              LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                              LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH108"], NHYDs to add=["119-108"+"A13-MN"+"A12-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH108"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH108"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["108-116"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[76.6](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                    NHYDin=["MH108"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["116-corrig"], RNUMBER=[1.0],
PDIAM=[1800](mm),
                    PLNGTH=[79.5](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                    NHYDin=["108-116"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["Corrigan"], NHYDs to add=["116-corrig"+"Pond-Block"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["Corrigan"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Corrigan Pond]
*%-----------------|-------------------------------------------------------------|
```

```
ROUTE RESERVOIR       NHYDout=["Co-P"],   NHYDin=["Corrigan"],
                      RDT=[1](min),
                            TABLE of ( OUTFLOW-STORAGE ) values
                                        (cms) - (ha-m)
                                      [    0.0 ,    0.0 ]
                                      [    0.015 ,  0.04118]
                                      [    0.030 ,  0.08297]
                                      [    0.045 ,  0.12537]
                                      [    0.060 ,  0.16837]
                                      [    0.075 ,  0.21199]
                                      [    0.090 ,  0.27545]
                                      [    0.105 ,  0.34650]
                                      [    0.120 ,  0.42049]
                                      [    0.135 ,  0.50188]
                                      [    0.186 ,  0.60307]
                                      [    2.110 ,  0.79083]
                                      [    5.874 ,  1.00271]
                                      [    11.395 ,  1.29643]
                                      [    18.770 ,  1.62054]
                                      [    28.143 ,  1.97516]
                                      [    -1   ,    -1   ]  (max twenty pts)
                            NHYDovf=["Co-P-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD               NHYDsum=["corrig"], NHYDs to
add=["Co-P-OVF"+"Co-P"+"N_TO"+"MH105-JR"+"A8-MJ-JR"+"A9-MJ"+"A10-MJ"+"A11-MJ"+"A12-MJ"+"A
13-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD              NHYD=["corrig"],   # OF PCYCLES=[-1],   ICASEsh=[1]
                      HYD_COMMENT=["Total Flows at Corrigan Pond"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Corrigan Pond 1
*#     - Rating curve obtained from Barrhaven South MSS modeling
*#     - Tributary Drainage Area to MSS Pond 1 = 145 ha
*#*****************************************************************************
*ROUTE RESERVOIR       NHYDout=["MS_P1"],   NHYDin=["CORRIG"],
*                      RDT=[1](min),
*                            TABLE of ( OUTFLOW-STORAGE ) values
*                                        (cms) - (ha-m)
*                                      [    0.0 ,    0.0 ]
*                                      [    0.06 ,  0.58]
*                                      [    -1   ,    -1   ]  (max twenty pts)
*                            NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD               NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD              NHYD=["SN_CO"],   # OF PCYCLES=[-1],   ICASEsh=[1]
*                      HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Corrigan Drain routed to Jockvale Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL         NHYDout=["N_MI"] ,NHYDin=["corrig"] ,
                      RDT=[1](min),
                      CHLGTH=[580](m),   CHSLOPE=[0.4448](%),
                                         FPSLOPE=[0.4448](%),
                      SECNUM=[1.0],         NSEG=[3]
                      ( SEGROUGH, SEGDIST (m))=
                        [0.075,-17.72
                        -0.045,17.72
                        0.075,80.62] NSEG times
                      ( DISTANCE (m), ELEVATION (m))=
                      [-83.32,  90.00]
                      [-81.36,  89.50]
                      [-79.12,  89.00]
```

```
                            [-76.13, 88.50]
                            [-20.46, 88.00]
                            [-19.36, 87.50]
                            [-18.51, 87.00]
                            [-17.72, 86.50]
                            [-11.95, 85.24]
                            [-0.11, 85.12]
                            [11.49, 85.20]
                            [17.72, 86.50]
                            [19.74, 87.00]
                            [21.22, 87.50]
                            [22.68, 88.00]
                            [24.28, 88.50]
                            [26.79, 89.00]
                            [71.98, 90.00]
                            [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
*#******************************************************************************
*#     Catchment MILLS
*#     - To SWM Facility north of the Jock
*#     - Primarily residential development
*#******************************************************************************
CONTINUOUS STANDHYD NHYD=["MILLS"], DT=[1]min, AREA=[175.99](ha),
                    XIMP=[0.38], TIMP=[0.38], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[1118.123](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*#******************************************************************************
*#     Chapman Mills SWM Pond
*#     - Rating curve obtained from CCL hydraulic modeling
*#******************************************************************************
ROUTE RESERVOIR     NHYDout=["MILL_P"],  NHYDin=["MILLS"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [    0.0 ,   0.0 ]
                                    [    0.01 ,  0.01]
                                    [    0.05 ,  0.06]
                                    [    0.09 ,  0.11]
                                    [    0.13 ,  0.15]
                                    [    0.18 ,  0.19]
                                    [    0.28 ,  0.28]
                                    [    0.37 ,  0.34]
                                    [    0.45 ,  0.40]
                                    [    0.51 ,  0.44]
                                    [    0.56 ,  0.47]
                                    [    0.64 ,  0.52]
                                    [    0.76 ,  0.59]
                                    [    0.86 ,  0.65]
                                    [    1.09 ,  0.78]
                                    [    1.44 ,  0.96]
                                    [    3.18 ,  1.84]
                                    [    4.05 ,  2.31]
                                    [    -1   ,  -1  ]  (max twenty pts)
                          NHYDovf=["MIL-OV"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_M"], NHYDs to add=["N_M"+"MIL-OV"+"MILL_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_M"],   # OF PCYCLES=[-1],  ICASEsh=[1]
```

```
                         HYD_COMMENT=["Total Flows at Jockvale Road"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Jockvale Road routed to Heart's Desire
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
*#
ROUTE CHANNEL            NHYDout=["N_DE"] ,NHYDin=["SN_MI"] ,
                         RDT=[1](min),
                         CHLGTH=[1962](m),   CHSLOPE=[0.2227](%),
                                              FPSLOPE=[0.2227](%),
                         SECNUM=[1.0],        NSEG=[3]
                         ( SEGROUGH, SEGDIST (m))=
                           [0.075,-17.56
                           -0.045,18.27
                           0.075,32.51] NSEG times
                         ( DISTANCE (m), ELEVATION (m))=
                         [-54.07, 85.00]
                         [-39.43, 84.50]
                         [-28.30, 84.00]
                         [-24.12, 83.50]
                         [-22.30, 83.00]
                         [-20.55, 82.50]
                         [-17.56, 82.00]
                         [-12.63, 81.22]
                         [-0.11, 80.75]
                         [11.55, 81.22]
                         [18.27, 82.00]
                         [19.82, 82.50]
                         [22.48, 83.00]
                         [27.90, 83.50]
                         [29.31, 84.00]
                         [30.81, 84.50]
                         [32.51, 85.00]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment DESIRE
*#     - To Jock River (north of the Jock)
*#     - Rural-estate subdivision (Heart's Desire Community)
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["DESIRE"], DT=[1]min, AREA=[23.78](ha),
                         XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[77],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                  LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                  LGI=[400](m), MNI=[0.013], SCI=[0](min),
                         Continuous simulation parameters:
                         IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                         SMIN=[-1](mm),   SMAX=[-1](mm), SK=[0.010]/(mm),
                         InterEventTime=[18](hrs),    END=-1
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#     Catchment JOCKVA
*#     - To Jockvale SWM Facility
*#     - Residential development & golf course
*#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
*#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as per IBI GROUP, July 2008.
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["JOCKVA"], DT=[1]min, AREA=[225.13](ha),
                         XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                         SCS curve number CN=[74],
                         Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                                  LGP=[40](m), MNP=[0.25], SCP=[0](min),
                         Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                                  LGI=[1310.55](m), MNI=[0.013], SCI=[0](min),
```

```
                          Continuous simulation parameters:
                          IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                          SMIN=[-1](mm),  SMAX=[-1](mm),  SK=[0.010]/(mm),
                          InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD                   NHYDsum=["JOCKVA-TO"],  NHYDs to
add=["EX-LAND-MN"+"JOCKVA"+"B2-MJ"+"B3-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                  NHYD=["JOCKVA-TO"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|-------------------------------------------------------------|
*#*******************************************************************************
*#     Jockvale SWM Facility
*#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
*#*******************************************************************************
ROUTE RESERVOIR           NHYDout=["JOCK_P"],  NHYDin=["JOCKVA-TO"],
                          RDT=[1](min),
                                TABLE of ( OUTFLOW-STORAGE ) values
                                            (cms) - (ha-m)
                                          [    0.0 ,   0.0 ]
                                          [    0.27 ,  0.03]
                                          [    0.28 ,  0.55]
                                          [    0.29 ,  1.14]
                                          [    0.30 ,  1.80]
                                          [    0.31 ,  2.32]
                                          [    1.12 ,  2.87]
                                          [    2.92 ,  3.45]
                                          [    4.64 ,  4.07]
                                          [    6.69 ,  4.72]
                                          [    9.02 ,  5.39]
                                          [    11.62 ,  6.10]
                                          [    14.42 ,  6.85]
                                          [    17.45 ,  7.62]
                                          [    20.69 ,  8.44]
                                          [    24.08 ,  9.28]
                                          [    27.68 ,  10.17]
                                          [    -1   ,   -1  ]  (max twenty pts)
                                NHYDovf=["JO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD                   NHYDsum=["SN_DE"],  NHYDs to add=["N_DE"+"DESIRE"+"JO-OVF"+"JOCK_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                  NHYD=["SN_DE"],    # OF PCYCLES=[-1],   ICASEsh=[1]
                          HYD_COMMENT=["Total Flows at Heart's Desire"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Heart's Desire routed to Rideau River
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
*#
ROUTE CHANNEL             NHYDout=["N1"] ,NHYDin=["SN_DE"] ,
                          RDT=[1](min),
                          CHLGTH=[563](m),   CHSLOPE=[0.9668](%),
                                              FPSLOPE=[0.9668](%),
                          SECNUM=[1.0],          NSEG=[3]
                          ( SEGROUGH, SEGDIST (m))=
                            [0.075,-30.20
                            -0.045,30.20
                            0.075,48.48] NSEG times
                          ( DISTANCE (m), ELEVATION (m))=
                          [-98.46,  81.50]
                          [-92.24,  81.00]
                          [-86.88,  80.50]
                          [-81.54,  80.00]
                          [-74.36,  79.50]
                          [-63.54,  79.00]
                          [-39.23,  78.50]
                          [-34.51,  78.00]
```

```
                            [-33.01, 77.50]
                            [-30.20, 77.00]
                            [-13.42, 76.18]
                            [-1.14, 76.09]
                            [17.06, 76.18]
                            [30.20, 77.00]
                            [32.95, 77.50]
                            [34.06, 78.00]
                            [35.11, 78.50]
                            [36.32, 79.00]
                            [37.74, 79.50]
                            [48.48, 81.50]
*%-----------------|-------------------------------------------------------------|
*#******************************************************************************
*#    Catchment S-2
*#    - To Jock River (north and south)
*#    - Undeveloped floodplain and river
*#******************************************************************************
CONTINUOUS NASHYD           NHYD=["S-2"], DT=[1]min, AREA=[102.94](ha),
                            DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                            N=[3], TP=[0.40]hrs,
                            Continuous simulation parameters:
                            IaRECper=[4](hrs),
                            SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                            InterEventTime=[12](hrs)
                            Baseflow simulation parameters:
                            BaseFlowOption=[1] ,
                            InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                            VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD                     NHYDsum=["SN_N1"], NHYDs to add=["N1"+"S-2"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD                    NHYD=["SN_N1"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                            HYD_COMMENT=["Total Flows at Rideau River"]
*%-----------------|-------------------------------------------------------------|
*#############################################################################
*% 5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                       TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                           ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*% 10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                       TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[10]
*%                           ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*% 25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                       TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[25]
*%                           ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*% 50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                       TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[50]
*%                           ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*% 100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START                       TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                           ["100YC3H.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*% 100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                       TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                           ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*% 100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START                       TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                           ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*START                       TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[101]
*%                           ["A24SC100.stm"] <--storm filename, one per line for NSTORM time
*START                       TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
```

```
*%                    ["A24SC100_60.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

```
==========================================================================================
SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000     11    5555   =========
S       W W W   MM MM   H   H    Y Y    MM MM   O   O           2    0   0    11    5
SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O           2    0   0    11    5      Ver 5.500
    S    W W    M   M   H   H     Y     M   M   O   O         222    0   0    11    555    FEB 2015
SSSSS    W W    M   M   H   H     Y     M   M    OOO          2      0   0    11      5    =========
                                                              2      0   0    11      5    # 2549237
      StormWater Management HYdrologic Model                  222     000     11    555    =========
******************************************************************************************
*************************************  SWMHYMO Ver 5.500  ********************************
*****************  A single event and continuous hydrologic simulation model  *****************
*****************     based on the principles of HYMO and its successors       *****************
*****************                  OTTHYMO-83 and OTTHYMO-89.                  *****************
******************************************************************************************
***************** Distributed by:  J.F. Sabourin and Associates Inc.           *****************
*****************                  Ottawa, Ontario: (613) 836-3884             *****************
*****************                  Gatineau, Quebec: (819) 243-6858            *****************
*****************                  E-Mail: swmhymo@jfsa.Com                    *****************
******************************************************************************************
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
+++++++++++++++++ Licensed user: JFSAinc.                                    +++++++++++++++++
+++++++++++++++++                 Ottawa                SERIAL#:2549237      +++++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
******************************************************************************************
*****************             ++++++ PROGRAM ARRAY DIMENSIONS ++++++        *****************
*****************             Maximum value for ID numbers    :     11      *****************
*****************             Max. number of rainfall points: 105408        *****************
*****************             Max. number of flow points      : 105408      *****************
******************************************************************************************
******************************  S U M M A R Y   O U T P U T  ******************************
******************************************************************************************
*                  RUN DATE:  2021-03-04      TIME:  11:57:49      RUN COUNTER:  002084           *
******************************************************************************************
* Input   file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_SDR-Fr_SD.dat                                                            *
* Output  file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_SDR-Fr_SD.out                                                            *
* Summary file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_SDR-Fr_SD.sum                                                            *
* User comments:                                                                                   *
* 1:_______________________________________________________________________________________________*
* 2:_______________________________________________________________________________________________*
* 3:_______________________________________________________________________________________________*
******************************************************************************************
#***************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date         : 04-03-2021
#  Modeller     : [M M]
#  Company      : JFSAinc.
#  License #    :  2549237
#***************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 %(as per St
# -----------------------------------------------------------------------
  ** END OF RUN :     1
******************************************************************************************
 RUN#:COMMAND#
R0002:C00001------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0002 ]
#***************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#***************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date         : 04-03-2021
#  Modeller     : [M M]
#  Company      : JFSAinc.
#  License #    :  2549237
#***************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 %(as per St
# -----------------------------------------------------------------------
R0002:C00002------------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
R0002:C00003------------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
R0002:C00004------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Based onvarious calibration exercises in Onta
                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0002:C00005------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_HW      3680.00    6.204 No_date   37:06   11.47 .252     .000
      [CN= 64.0:  N= 3.00:  Tp= 7.13]
      [IaREC= 4.00:  SMIN= 57.05:  SMAX=380.32:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_13       971.00    2.187 No_date   32:37   10.75 .236     .000
      [CN= 61.0:  N= 3.00:  Tp= 3.76]
      [IaREC= 4.00:  SMIN= 64.50:  SMAX=430.01:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_GWM     3074.00    3.218 No_date   39:59    9.43 .207     .000
      [CN= 55.0:  N= 3.00:  Tp=11.33]
      [IaREC= 4.00:  SMIN= 83.24:  SMAX=554.96:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_ASH     1781.00    5.504 No_date   32:45   13.94 .306     .000
      [CN= 72.0:  N= 3.00:  Tp= 3.91]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_11       500.00    2.720 No_date   29:22   11.98 .263     .000
      [CN= 66.0:  N= 3.00:  Tp= 1.24]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NN_CK      1917.00    4.042 No_date   34:34   11.98 .263     .000
      [CN= 66.0:  N= 3.00:  Tp= 5.29]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0002:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_10      5666.00   11.228 No_date   38:07   13.94 .306     .000
      [CN= 72.0:  N= 3.00:  Tp= 8.00]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:KG_CK      8376.00   11.072 No_date   39:59   11.98 .263     .000
      [CN= 66.0:  N= 3.00:  Tp=11.66]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0002:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_9       1132.00    4.434 No_date   30:56   13.35 .293     .000
      [CN= 70.0:  N= 3.00:  Tp= 2.51]
      [IaREC= 4.00:  SMIN= 43.07:  SMAX=287.10:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NC_CK      4464.00    5.504 No_date   39:59   10.98 .241     .000
      [CN= 62.0:  N= 3.00:  Tp=11.32]
      [IaREC= 4.00:  SMIN= 61.90:  SMAX=412.66:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_8        131.00     .805 No_date   28:57   11.22 .247     .000
      [CN= 63.0:  N= 3.00:  Tp=  .90]
      [IaREC= 4.00:  SMIN= 59.42:  SMAX=396.11:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0002:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:HB_DR      3854.00    6.242 No_date   38:46   11.98 .263     .000
      [CN= 66.0:  N= 3.00:  Tp= 8.42]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_7       3197.00    4.651 No_date   36:31    9.85 .217     .000
      [CN= 57.0:  N= 3.00:  Tp= 6.65]
      [IaREC= 4.00:  SMIN= 76.32:  SMAX=508.81:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_6        165.00     .413 No_date   33:07   12.24 .269     .000
      [CN= 67.0:  N= 3.00:  Tp= 4.18]
      [IaREC= 4.00:  SMIN= 50.55:  SMAX=336.97:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0002:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:VG_DR      1332.00    3.148 No_date   35:23   13.94 .306     .000
      [CN= 72.0:  N= 3.00:  Tp= 5.95]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5        224.00    2.597 No_date   28:45   15.91 .350     .000
      [CN= 77.0:  N= 3.00:  Tp=  .75]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0002:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FL_CK      4945.00   14.839 No_date   33:25   14.57 .320     .000
      [CN= 74.0:  N= 3.00:  Tp= 4.45]
      [IaREC= 4.00:  SMIN= 36.67:  SMAX=244.49:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A2       20.00     .309 No_date   28:36   17.79 .391     .000
      [CN= 81.0:  N= 3.00:  Tp=  .62]
      [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0002:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A1     1412.00    3.090 No_date   38:04   15.22 .334     .000
      [CN= 75.0:  N= 3.00:  Tp= 8.00]
      [IaREC= 4.00:  SMIN= 33.81:  SMAX=225.43:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_4        585.00    4.325 No_date   29:58   17.79 .391     .000
      [CN= 81.0:  N= 3.00:  Tp= 1.75]
      [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:LM_CK      1021.00    5.747 No_date   30:50   17.39 .382     .000
      [CN= 80.0:  N= 3.00:  Tp= 2.46]
      [IaREC= 4.00:  SMIN= 26.32:  SMAX=175.50:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_2        177.00    2.052 No_date   28:45   15.91 .350     .000
      [CN= 77.0:  N= 3.00:  Tp=  .75]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SM_DR      1122.00    5.337 No_date   31:50   17.79 .391     .000
      [CN= 81.0:  N= 3.00:  Tp= 3.25]
      [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
      [InterEventTime=  12.00]
R0002:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:MD_DR      2737.00   11.528 No_date   31:35   15.56 .342     .000
      [CN= 76.0:  N= 3.00:  Tp= 3.03]
      [IaREC= 4.00:  SMIN= 32.46:  SMAX=216.39:  SK= .010]
      [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0002:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR_HW      3680.00    6.204 No_date   37:06   11.47  n/a     .000
                      +    1.0 02:SW_13       971.00    2.187 No_date   32:37   10.75  n/a     .000
                   SUM=    1.0 01:S_N13      4651.00    7.871 No_date   35:37   11.32  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0002:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N13      4651.00    7.871 No_date   35:37   11.32  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N13A       4651.00    6.258 No_date   39:59   11.32  n/a     .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .429:Dmax= 2.557}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0002:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N13A       4651.00    6.258 No_date   39:59   11.32  n/a     .000
                      +    1.0 02:JR_GWM     3074.00    3.218 No_date   39:59    9.43  n/a     .000
                   SUM=    1.0 01:SN13A      7725.00    9.475 No_date   39:59   10.57  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0002:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:SN13A      7725.00    9.475 No_date   39:59   10.57  n/a     .000
                out <=     1.0 01:RES_GM     7725.00    2.619 No_date   55:07   10.57  n/a     .000
      {MxStoUsed=.3585E+02  m3}
#
R0002:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:RES_GM     7725.00    2.619 No_date   55:07   10.57  n/a     .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:RES_GM     7725.00    2.619 No_date   55:07   10.57  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N12        7725.00    2.609 No_date   58:09   10.57  n/a     .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .501:Dmax= 1.329}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0002:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N12        7725.00    2.609 No_date   58:08   10.57  n/a     .000
                      +    1.0 02:JR_ASH     1781.00    5.504 No_date   32:45   13.94  n/a     .000
                   SUM=    1.0 01:S_N12      9506.00    7.458 No_date   32:50   11.20  n/a     .000
R0002:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N12      9506.00    7.458 No_date   32:50   11.20  n/a     .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0002:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N12      9506.00    7.458 No_date   32:50   11.20  n/a     .000
      [RDT= 1.00] out<-    1.0 01:Dum11      9506.00    7.379 No_date   33:12   11.20  n/a     .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .591:Dmax= 2.108}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
```

```
#
R0002:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:Duml1       9506.00    7.379 No_date   33:12   11.20  n/a     .000
                     +   1.0 02:SW_11        500.00    2.720 No_date   29:22   11.98  n/a     .000
                     +   1.0 02:NN_CK       1917.00    4.042 No_date   34:34   11.98  n/a     .000
                  SUM=   1.0 01:S_N11      11923.00   12.077 No_date   33:14   11.36  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0002:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N11      11923.00   12.077 No_date   33:14   11.36  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N10        11923.00    8.276 No_date   39:46   11.36  n/a     .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .462:Dmax=  .886}
#
# Addition of Subwatershed 10 to Node 10
#
R0002:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N10        11923.00    8.276 No_date   39:46   11.36  n/a     .000
                     +   1.0 02:SW_10       5666.00   11.228 No_date   38:07   13.94  n/a     .000
                  SUM=   1.0 01:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
R0002:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0002:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
                     +   1.0 02:KG_CK       8376.00   11.072 No_date   39:59   11.98  n/a     .000
                  SUM=   1.0 01:S_N10A     25965.00   30.328 No_date   39:58   12.12  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0002:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N10A     25965.00   30.328 No_date   39:58   12.12  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N9         25965.00   29.579 No_date   39:59   12.12  n/a     .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .595:Dmax= 1.208}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0002:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N9         25965.00   29.579 No_date   39:59   12.12  n/a     .000
                     +   1.0 02:SW_9        1132.00    4.434 No_date   30:56   13.35  n/a     .000
                     +   1.0 02:NC_CK       4464.00    5.504 No_date   39:59   10.98  n/a     .000
                  SUM=   1.0 01:S_N9       31561.00   36.313 No_date   39:59   12.00  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0002:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N9       31561.00   36.313 No_date   39:59   12.00  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N8         31561.00   34.173 No_date   39:59   12.00  n/a     .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .418:Dmax= 1.281}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0002:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N8         31561.00   34.173 No_date   39:59   12.00  n/a     .000
                     +   1.0 02:SW_8         131.00     .805 No_date   28:57   11.22  n/a     .000
                     +   1.0 02:HB_DR       3854.00    6.242 No_date   38:46   11.98  n/a     .000
                  SUM=   1.0 01:S_N8       35546.00   40.474 No_date   39:59   12.00  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N8       35546.00   40.474 No_date   39:59   12.00  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N7         35546.00   32.891 No_date   44:30   12.00  n/a     .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .208:Dmax= 1.651}
#
# Addition of Subwatershed 7 to Node 7
#
R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N7         35546.00   32.891 No_date   44:30   12.00  n/a     .000
                     +   1.0 02:SW_7        3197.00    4.651 No_date   36:31    9.85  n/a     .000
                  SUM=   1.0 01:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
              out <=     1.0 01:RES_RF     38743.00   23.265 No_date   55:09   11.82  n/a     .000
     {MxStoUsed=.7801E+02  m3}
R0002:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:RES_RF     38743.00   23.265 No_date   55:09   11.82  n/a     .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0002:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:RES_RF     38743.00   23.265 No_date   55:09   11.82  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N6         38743.00   23.228 No_date   56:38   11.82  n/a     .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .432:Dmax=  .808}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0002:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N6         38743.00   23.228 No_date   56:38   11.82  n/a     .000
                     +   1.0 02:SW_6         165.00     .413 No_date   33:07   12.24  n/a     .000
                     +   1.0 02:VG_DR       1332.00    3.148 No_date   35:23   13.94  n/a     .000
                  SUM=   1.0 01:S_N6       40240.01   23.318 No_date   39:59   11.89  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0002:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N6       40240.01   23.318 No_date   39:59   11.89  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N5         40240.01   23.285 No_date   56:09   11.89  n/a     .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .378:Dmax=  .917}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0002:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N5         40240.01   23.285 No_date   56:09   11.89  n/a     .000
                     +   1.0 02:SW_5         224.00    2.597 No_date   28:45   15.91  n/a     .000
                     +   1.0 02:FL_CK       4945.00   14.839 No_date   33:25   14.57  n/a     .000
                  SUM=   1.0 01:S_N5       45409.01   33.166 No_date   37:08   12.20  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0002:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N5       45409.01   33.166 No_date   37:08   12.20  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N5A        45409.01   33.135 No_date   37:20   12.20  n/a     .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .443:Dmax=  .937}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0002:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N5A        45409.01   33.135 No_date   37:20   12.20  n/a     .000
                     +   1.0 02:SW_5A2        20.00     .309 No_date   28:36   17.79  n/a     .000
                     +   1.0 02:SW_5A1      1412.00    3.090 No_date   38:04   15.22  n/a     .000
                  SUM=   1.0 01:S_N5A      46841.01   36.236 No_date   37:28   12.30  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0002:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N5A      46841.01   36.236 No_date   37:28   12.30  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N4         46841.01   35.288 No_date   39:22   12.30  n/a     .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .695:Dmax= 2.844}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0002:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N4         46841.01   35.288 No_date   39:22   12.30  n/a     .000
                     +   1.0 02:SW_4         585.00    4.325 No_date   29:58   17.79  n/a     .000
                     +   1.0 02:LM_CK       1021.00    5.747 No_date   30:50   17.39  n/a     .000
                  SUM=   1.0 01:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
R0002:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
      fname :S_N4.0002
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0002:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N2         48447.00   37.455 No_date   38:49   12.47  n/a     .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .715:Dmax= 2.845}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0002:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N2         48447.00   37.455 No_date   38:49   12.47  n/a     .000
                     +   1.0 02:SW_2         177.00    2.052 No_date   28:45   15.91  n/a     .000
                     +   1.0 02:SM_DR       1122.00    5.337 No_date   31:50   17.79  n/a     .000
                     +   1.0 02:MD_DR       2737.00   11.528 No_date   31:35   15.56  n/a     .000
                  SUM=   1.0 01:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
R0002:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0002:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N_416      52483.00   45.431 No_date   35:37   12.76  n/a     .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .577:Dmax= 2.212}
#****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#****************************************************************************
R0002:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:SW_1a        536.42    1.885 No_date   31:21   13.01 .286     .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime= 12.00]
R0002:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:S-1-Okeefe    44.93    3.420 No_date   28:04   32.20 .707     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:S-1-Okeefe    44.93    3.420 No_date   28:04   32.20  n/a     .000
     Major System  /     1.0 02:S-1-OkMJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \     1.0 03:S-1-OkMN      44.93    3.420 No_date   28:04   32.20  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:S-1-OkMJ        .00     .000 No_date    0:00     .00  n/a     .000
                     +   1.0 02:S-1-OkMN      44.93    3.420 No_date   28:04   32.20  n/a     .000
                  SUM=   1.0 01:S-1-OkS       44.93    3.420 No_date   28:04   32.20  n/a     .000
R0002:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:S-1-OkS       44.93    3.420 No_date   28:04   32.20  n/a     .000
              out <=     1.0 01:S-1-OkSR      44.93     .261 No_date   29:32   32.20  n/a     .000
         overflow <=     1.0 03:S-1-OkSovf      .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.8722E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:N_416      52483.00   45.431 No_date   35:37   12.76  n/a     .000
                     +   1.0 02:SW_1a        536.42    1.885 No_date   31:21   13.01  n/a     .000
                     +   1.0 02:S-1-OkSR      44.93     .261 No_date   29:32   32.20  n/a     .000
                     +   1.0 02:S-1-OkSovf      .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=   1.0 01:SN_416     53064.36   46.727 No_date   35:24   12.78  n/a     .000
R0002:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:SN_416     53064.36   46.727 No_date   35:24   12.78  n/a     .000
      fname :SN_416.0002
      remark:Total Flows at Highway 416 before Station 7245
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0002:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:SN_416     53064.36   46.727 No_date   35:24   12.78  n/a     .000
     [RDT= 1.00] out<-   1.0 01:N_OK       53064.36   46.720 No_date   35:24   12.78  n/a     .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.191:Dmax= 1.882}
#****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#****************************************************************************
R0002:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-1           63.72     .305 No_date   28:59    9.62 .211     .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime= 12.00]
R0002:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:O-1           63.72     .305 No_date   28:59    9.62  n/a     .000
     [RDT= 1.00] out<-   1.0 01:O-1R          63.72     .272 No_date   29:20    9.62  n/a     .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .589:Dmax=  .212}
R0002:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-2           28.61     .110 No_date   29:14    9.11 .200     .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime= 12.00]
R0002:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-4           46.94     .126 No_date   29:02    7.06 .155     .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime= 12.00]
R0002:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:O-1R          63.72     .272 No_date   29:20    9.62  n/a     .000
                     +   1.0 02:O-2           28.61     .110 No_date   29:14    9.11  n/a     .000
                     +   1.0 02:O-4           46.94     .126 No_date   29:02    7.06  n/a     .000
                  SUM=   1.0 01:OKF-N        139.27     .504 No_date   29:15    8.65  n/a     .000
R0002:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:OKF-N        139.27     .504 No_date   29:15    8.65  n/a     .000
     [RDT= 1.00] out<-   1.0 01:OKF-NR       139.27     .502 No_date   29:20    8.65  n/a     .000
      [L/S/n=  210./ .810/.043]
      {Vmax=  .722:Dmax=  .437}
R0002:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-6           16.46     .042 No_date   28:47    6.40 .141     .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime= 12.00]
R0002:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:O-3           39.67     .402 No_date   28:28   11.03 .242     .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0002:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:O-5           60.63     .937 No_date   28:10   12.08 .265     .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0002:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:OKF-NR       139.27     .502 No_date   29:20    8.65  n/a     .000
                     +   1.0 02:O-3           39.67     .402 No_date   28:28   11.03  n/a     .000
                     +   1.0 02:O-5           60.63     .937 No_date   28:10   12.08  n/a     .000
                     +   1.0 02:O-6           16.46     .042 No_date   28:47    6.40  n/a     .000
                  SUM=   1.0 01:PT1          256.03    1.441 No_date   28:30    9.69  n/a     .000
R0002:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-7            5.28     .024 No_date   28:38    8.02 .176     .000
      [CN= 54.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
      [InterEventTime= 12.00]
R0002:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:PT1          256.03    1.441 No_date   28:30    9.69  n/a     .000
                     +   1.0 02:O-7            5.28     .024 No_date   28:38    8.02  n/a     .000
                  SUM=   1.0 01:FF           261.31    1.465 No_date   28:30    9.65  n/a     .000
R0002:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   1.0 02:FF           261.31    1.465 No_date   28:30    9.65  n/a     .000
     [RDT= 1.00] out<-   1.0 01:DRAIN1       261.31    1.446 No_date   28:36    9.65  n/a     .000
      [L/S/n=  302./1.000/.043]
      {Vmax=  .953:Dmax=  .543}
R0002:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:D1             1.17     .026 No_date   28:12   15.66 .344     .000
      [CN= 84.0: N= 3.00: Tp=  .28]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime= 12.00]
R0002:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A1             2.50     .256 No_date   28:01   34.35 .755     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:A1             2.50     .256 No_date   28:01   34.35  n/a     .000
              out <=     1.0 01:A1-STR         2.50     .048 No_date   28:35   34.35  n/a     .000
         overflow <=     1.0 03:A1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4261E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:ST-2            .59     .044 No_date   28:00   25.32 .556     .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   1.0 02:ST-2            .59     .044 No_date   28:00   25.32  n/a     .000
              out <=     1.0 01:ST2STR          .59     .041 No_date   28:02   25.32  n/a     .000
         overflow <=     1.0 03:ST2OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.7924E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:O-8           60.55     .405 No_date   29:05   12.46 .274     .000
      [CN= 69.0: N= 3.00: Tp= 1.00]
      [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
      [InterEventTime= 12.00]
R0002:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->   1.0 02:O-8           60.55     .405 No_date   29:05   12.46  n/a     .000
```

```
       [RDT= 1.00] out<-    1.0 01:O8PIPE         60.55      .402 No_date   29:10   12.46  n/a      .000
        [L/S/n=  335./ .100/.013]
        {Vmax=  .842:Dmax=  .265}
        {HGTH= 1.20:WDTH= 1.80}
R0002:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN1        261.31     1.446 No_date   28:36    9.65  n/a      .000
                      +     1.0 02:D1              1.17      .026 No_date   28:12   15.66  n/a      .000
                      +     1.0 02:A1-STR          2.50      .048 No_date   28:35   34.35  n/a      .000
                      +     1.0 02:A1-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST2STR           .59      .041 No_date   28:02   25.32  n/a      .000
                      +     1.0 02:ST2OVF           .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:O8PIPE         60.55      .402 No_date   29:10   12.46  n/a      .000
                   SUM=     1.0 01:ST2-IN        326.12     1.834 No_date   28:39   10.41  n/a      .000
R0002:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A7              3.51      .348 No_date   28:02   34.35 .755      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A7              3.51      .348 No_date   28:02   34.35  n/a      .000
                 out <=     1.0 01:A7-STR          3.51      .067 No_date   28:36   34.35  n/a      .000
            overflow <=     1.0 03:A7-OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.6002E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-3             .71      .053 No_date   28:00   25.32 .556      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-3             .71      .053 No_date   28:00   25.32  n/a      .000
                 out <=     1.0 01:ST3STR           .71      .050 No_date   28:02   25.32  n/a      .000
            overflow <=     1.0 03:ST3OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.7947E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:ST2-IN        326.12     1.834 No_date   28:39   10.41  n/a      .000
                      +     1.0 02:A7-STR          3.51      .067 No_date   28:36   34.35  n/a      .000
                      +     1.0 02:A7-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST3STR           .71      .050 No_date   28:02   25.32  n/a      .000
                      +     1.0 02:ST3OVF           .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT2ST3        330.34     1.912 No_date   28:38   10.70  n/a      .000
R0002:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:PT2ST3        330.34     1.912 No_date   28:38   10.70  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN2        330.34     1.821 No_date   28:57   10.70  n/a      .000
        [L/S/n=  592./ .230/.043]
        {Vmax=  .681:Dmax=  .785}
R0002:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D2              2.28      .021 No_date   29:07   15.66 .344      .000
        [CN= 84.0: N= 3.00: Tp=  .99]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime=  12.00]
R0002:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A17            12.04     1.030 No_date   28:04   34.35 .755      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A17            12.04     1.030 No_date   28:04   34.35  n/a      .000
                 out <=     1.0 01:A17STR         12.04      .220 No_date   28:42   34.35  n/a      .000
            overflow <=     1.0 03:A17OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.2030E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-4             .35      .027 No_date   28:00   25.32 .556      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-4             .35      .027 No_date   28:00   25.32  n/a      .000
                 out <=     1.0 01:ST4STR           .35      .023 No_date   28:03   25.32  n/a      .000
            overflow <=     1.0 03:ST4OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.7487E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A18             5.30      .500 No_date   28:03   34.35 .755      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A18             5.30      .500 No_date   28:03   34.35  n/a      .000
                 out <=     1.0 01:A18STR          5.30      .099 No_date   28:38   34.35  n/a      .000
            overflow <=     1.0 03:A18OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.9042E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN2        330.34     1.821 No_date   28:57   10.70  n/a      .000
                      +     1.0 02:D2              2.28      .021 No_date   29:07   15.66  n/a      .000
                      +     1.0 02:A17STR         12.04      .220 No_date   28:42   34.35  n/a      .000
                      +     1.0 02:A17OVF           .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST4STR           .35      .023 No_date   28:03   25.32  n/a      .000
                      +     1.0 02:ST4OVF           .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:A18STR          5.30      .099 No_date   28:38   34.35  n/a      .000
                      +     1.0 02:A18OVF           .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT3ST4        350.31     2.146 No_date   28:54   11.92  n/a      .000
R0002:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:PT3ST4        350.31     2.146 No_date   28:54   11.92  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN3        350.31     2.088 No_date   29:08   11.92  n/a      .000
        [L/S/n=  525./ .230/.043]
        {Vmax=  .707:Dmax=  .833}
R0002:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D3              2.51      .033 No_date   28:46   17.40 .382      .000
        [CN= 86.0: N= 3.00: Tp=  .73]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0002:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:C1              3.41      .339 No_date   28:02   34.35 .755      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:C1              3.41      .339 No_date   28:02   34.35  n/a      .000
                 out <=     1.0 01:C1-STR          3.41      .065 No_date   28:36   34.35  n/a      .000
            overflow <=     1.0 03:C1-OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.5806E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-5             .45      .034 No_date   28:00   25.32 .556      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-5             .45      .034 No_date   28:00   25.32  n/a      .000
                 out <=     1.0 01:ST5STR           .45      .031 No_date   28:03   25.32  n/a      .000
            overflow <=     1.0 03:ST5OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.7682E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN3        350.31     2.088 No_date   29:08   11.92  n/a      .000
                      +     1.0 02:D3              2.51      .033 No_date   28:46   17.40  n/a      .000
                      +     1.0 02:C1-STR          3.41      .065 No_date   28:36   34.35  n/a      .000
                      +     1.0 02:C1-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST5STR           .45      .031 No_date   28:03   25.32  n/a      .000
                      +     1.0 02:ST5OVF           .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:ST5-E         356.68     2.174 No_date   29:07   12.19  n/a      .000
R0002:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:STRAND          7.59      .471 No_date   28:13   33.47 .735      .000
        [XIMP=.64:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:STRAND          7.59      .471 No_date   28:13   33.47  n/a      .000
                 out <=     1.0 01:S-POND          7.59      .032 No_date   30:14   33.47  n/a      .000
            overflow <=     1.0 03:S-OVF            .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.1805E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:ST5-E         356.68     2.174 No_date   29:07   12.19  n/a      .000
                      +     1.0 02:S-POND          7.59      .032 No_date   30:14   33.47  n/a      .000
                      +     1.0 02:S-OVF            .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:SSAOUT        364.27     2.204 No_date   29:07   12.63  n/a      .000
R0002:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SSAOUT        364.27     2.204 No_date   29:07   12.63  n/a      .000
        fname :SSAOUT.0002
        remark:SSAOUT
R0002:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Area-A         66.75     3.902 No_date   28:13   32.66 .718      .000
        [XIMP=.64:TIMP=.80]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:Area-A         66.75     3.902 No_date   28:13   32.66  n/a      .000
        fname :Area-A.0002
        remark:SMWF-A Inflow
R0002:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Area-A         66.75     3.902 No_date   28:13   32.66  n/a      .000
                 out <=     1.0 01:SWMF-A         66.75      .126 No_date   32:26   32.66  n/a      .000
            overflow <=     1.0 03:SWMAOV           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.1708E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SWMF-A         66.75      .126 No_date   32:26   32.66  n/a      .000
        fname :SWMF-A.0002
        remark:SMWF-A Outflow
R0002:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:SSAOUT        364.27     2.204 No_date   29:07   12.63  n/a      .000
                      +     1.0 02:SWMF-A         66.75      .126 No_date   32:26   32.66  n/a      .000
                      +     1.0 02:SWMAOV           .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT4ST5        431.02     2.323 No_date   29:07   15.73  n/a      .000
R0002:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:C6              1.87      .196 No_date   28:01   34.35 .755      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:C6              1.87      .196 No_date   28:01   34.35  n/a      .000
                 out <=     1.0 01:C6-STR          1.87      .036 No_date   28:34   34.35  n/a      .000
            overflow <=     1.0 03:C6-OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.3218E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:C7              1.62      .171 No_date   28:01   34.35 .755      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:C7              1.62      .171 No_date   28:01   34.35  n/a      .000
                 out <=     1.0 01:C7-STR          1.62      .031 No_date   28:34   34.35  n/a      .000
            overflow <=     1.0 03:C7-OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.2774E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-6             .41      .031 No_date   28:00   25.32 .556      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-6             .41      .031 No_date   28:00   25.32  n/a      .000
                 out <=     1.0 01:ST6STR           .41      .028 No_date   28:03   25.32  n/a      .000
            overflow <=     1.0 03:ST6OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.7725E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:PT4ST5        431.02     2.323 No_date   29:07   15.73  n/a      .000
                      +     1.0 02:C6-STR          1.87      .036 No_date   28:34   34.35  n/a      .000
                      +     1.0 02:C6-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:C7-STR          1.62      .031 No_date   28:34   34.35  n/a      .000
                      +     1.0 02:C7-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:ST6STR           .41      .028 No_date   28:03   25.32  n/a      .000
                      +     1.0 02:ST6OVF           .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:PT5ST6        434.92     2.379 No_date   29:06   15.89  n/a      .000
R0002:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:PT5ST6        434.92     2.379 No_date   29:06   15.89  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN4        434.92     2.319 No_date   29:17   15.89  n/a      .000
        [L/S/n=  324./ .100/.043]
        {Vmax=  .532:Dmax= 1.041}
R0002:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D4              1.73      .030 No_date   28:36   18.93 .416      .000
        [CN= 88.0: N= 3.00: Tp=  .60]
        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
        [InterEventTime=  12.00]
R0002:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Area-B         24.04     2.028 No_date   28:04   31.71 .697      .000
        [XIMP=.62:TIMP=.77]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Area-B         24.04     2.028 No_date   28:04   31.71  n/a      .000
                 out <=     1.0 01:SWMF-B         24.04      .169 No_date   29:09   31.71  n/a      .000
            overflow <=     1.0 03:SWMBOVF          .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.4926E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN4        434.92     2.319 No_date   29:17   15.89  n/a      .000
                      +     1.0 02:D4              1.73      .030 No_date   28:36   18.93  n/a      .000
                      +     1.0 02:SWMF-B         24.04      .169 No_date   29:09   31.71  n/a      .000
                      +     1.0 02:SWMBOVF          .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:D4-EX         460.69     2.507 No_date   29:17   16.73  n/a      .000
R0002:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:D4-EX         460.69     2.507 No_date   29:17   16.73  n/a      .000
       [RDT= 1.00] out<-    1.0 01:DRAIN5        460.69     2.448 No_date   29:30   16.73  n/a      .000
        [L/S/n=  413./ .160/.033]
        {Vmax=  .501:Dmax=  .708}
R0002:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D5              1.90      .026 No_date   28:43   17.40 .382      .000
        [CN= 86.0: N= 3.00: Tp=  .69]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0002:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-13SDF         9.74      .182 No_date   28:22   16.95 .372      .000
        [CN= 81.0: N= 3.00: Tp=  .43]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0002:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:O-13SDF         9.74      .182 No_date   28:22   16.95  n/a      .000
                 out <=     1.0 01:SDF             9.74      .021 No_date   32:19   16.95  n/a      .000
            overflow <=     1.0 03:OVFSDF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.8320E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN5        460.69     2.448 No_date   29:30   16.73  n/a      .000
                      +     1.0 02:D5              1.90      .026 No_date   28:43   17.40  n/a      .000
                      +     1.0 02:SDF             9.74      .021 No_date   32:19   16.95  n/a      .000
                   SUM=     1.0 01:PT6MC         472.33     2.484 No_date   29:30   16.73  n/a      .000
R0002:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-15           10.67      .230 No_date   28:14   15.77 .347      .000
        [CN= 82.0: N= 3.00: Tp=  .30]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime=  12.00]
R0002:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:PT6MC         472.33     2.484 No_date   29:30   16.73  n/a      .000
                      +     1.0 02:O-15           10.67      .230 No_date   28:14   15.77  n/a      .000
                   SUM=     1.0 01:M-C           483.00     2.528 No_date   29:29   16.71  n/a      .000
R0002:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:M-C           483.00     2.528 No_date   29:29   16.71  n/a      .000
       [RDT= 1.00] out<-    1.0 01:O-14Ch        483.00     2.419 No_date   29:44   16.71  n/a      .000
        [L/S/n=  845./ .100/.033]
        {Vmax=  .756:Dmax= 1.160}
R0002:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-14            5.00      .181 No_date   28:04   15.77 .347      .000
        [CN= 82.0: N= 3.00: Tp=  .13]
        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
        [InterEventTime=  12.00]
R0002:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:O-14Ch        483.00     2.419 No_date   29:44   16.71  n/a      .000
                      +     1.0 02:O-14            5.00      .181 No_date   28:04   15.77  n/a      .000
                   SUM=     1.0 01:OKEEFE        488.00     2.434 No_date   29:44   16.70  n/a      .000
#****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#****************************************************************************
R0002:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D2         18.67     1.588 No_date   28:02   32.20 .707      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-D2         18.67     1.588 No_date   28:02   32.20  n/a      .000
      Major System  /       1.0 02:S-1-D2J          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \       1.0 03:S-1-D2N        18.67     1.588 No_date   28:02   32.20  n/a      .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-D2J          .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:S-1-D2N        18.67     1.588 No_date   28:02   32.20  n/a      .000
                   SUM=     1.0 01:S-1-D2S        18.67     1.588 No_date   28:02   32.20  n/a      .000
R0002:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-D2S        18.67     1.588 No_date   28:02   32.20  n/a      .000
                 out <=     1.0 01:S-1-D2R        18.67      .109 No_date   29:25   32.20  n/a      .000
            overflow <=     1.0 03:S-1-D2Rovf       .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.3627E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D3          6.79      .628 No_date   28:01   32.20 .707      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-D3          6.79      .628 No_date   28:01   32.20  n/a      .000
      Major System  /       1.0 02:S-1-D3J          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \       1.0 03:S-1-D3N         6.79      .628 No_date   28:01   32.20  n/a      .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-D3J          .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:S-1-D3N         6.79      .628 No_date   28:01   32.20  n/a      .000
                   SUM=     1.0 01:S-1-D3S         6.79      .628 No_date   28:01   32.20  n/a      .000
R0002:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-D3S         6.79      .628 No_date   28:01   32.20  n/a      .000
                 out <=     1.0 01:S-1-D3R         6.79      .040 No_date   29:20   32.20  n/a      .000
            overflow <=     1.0 03:S-1-D3Rovf       .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.1320E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_OK        53064.36    46.720 No_date   35:24   12.78  n/a      .000
                      +     1.0 02:OKEEFE        488.00     2.434 No_date   29:44   16.70  n/a      .000
                      +     1.0 02:S-1-D2R        18.67      .109 No_date   29:25   32.20  n/a      .000
                      +     1.0 02:S-1-D3R         6.79      .040 No_date   29:20   32.20  n/a      .000
                      +     1.0 02:S-1-D2Rovf       .00      .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:S-1-D3Rovf       .00      .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:SN_OK       53577.82    47.629 No_date   34:57   12.82  n/a      .000
R0002:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_OK       53577.82    47.629 No_date   34:57   12.82  n/a      .000
        fname :SN_OK.0002
        remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
```

```
#
R0002:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_OK      53577.82   47.629 No_date   34:57   12.82  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_FO       53577.82   47.599 No_date   35:11   12.82  n/a     .000
       [L/S/n= 1183./ .076/.035]
       {Vmax=  .919:Dmax= 2.264}
#*************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#*************************************************************************
R0002:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FOSTER       325.44   13.697 No_date   28:15   28.56 .628     .000
       [XIMP=.55:TIMP=.55]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
#*************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*************************************************************************
R0002:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:FOSTER       325.44   13.697 No_date   28:15   28.56  n/a     .000
                 out <=     1.0 01:P_FOS        325.44    3.894 No_date   29:12   28.56  n/a     .000
            overflow <=     1.0 03:FO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3766E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:P_FOS        325.44    3.894 No_date   29:12   28.56  n/a     .000
                     +      1.0 02:FO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:FOSTER-OUT   325.44    3.894 No_date   29:12   28.56  n/a     .000
#*************************************************************************
R0002:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA    73.29    4.584 No_date   28:07   31.34 .689     .000
       [XIMP=.60:TIMP=.65]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA    73.29    4.584 No_date   28:07   31.34  n/a     .000
                 out <=     1.0 01:MS_P10        73.29    1.033 No_date   28:50   31.34  n/a     .000
            overflow <=     1.0 03:P10-OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7493E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-FO-D2      4.94     .383 No_date   28:01   28.56 .628     .000
       [XIMP=.55:TIMP=.55]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0002:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-FO-D2      4.94     .383 No_date   28:01   28.56  n/a     .000
      Major System   /      1.0 02:S-1-FO-D2J      .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:S-1-FO-D2N     4.94     .383 No_date   28:01   28.56  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-FO-D2J      .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1-FO-D2N     4.94     .383 No_date   28:01   28.56  n/a     .000
                  SUM=      1.0 01:S-1-FO-D2S     4.94     .383 No_date   28:01   28.56  n/a     .000
R0002:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-FO-D2S     4.94     .383 No_date   28:01   28.56  n/a     .000
                 out <=     1.0 01:S-1-FO-D2R     4.94     .025 No_date   29:35   28.56  n/a     .000
            overflow <=     1.0 03:S-1FOD2ovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.8417E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FOSTER-OUT   325.44    3.894 No_date   29:12   28.56  n/a     .000
                     +      1.0 02:S-1-FO-D2R     4.94     .025 No_date   29:35   28.56  n/a     .000
                     +      1.0 02:S-1FOD2ovf      .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:980          330.38    3.919 No_date   29:12   28.56  n/a     .000
R0002:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:980          330.38    3.919 No_date   29:12   28.56  n/a     .000
       fname :980.0002
       remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0002:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:980          330.38    3.919 No_date   29:12   28.56  n/a     .000
      [RDT= 1.00] out<-     1.0 01:980-out      330.38    3.791 No_date   29:25   28.56  n/a     .000
       [L/S/n=  460./ .043/.035]
       {Vmax=  .544:Dmax= 1.092}
R0002:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-FO-D1      5.11     .460 No_date   28:01   31.98 .703     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0002:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-FO-D1      5.11     .460 No_date   28:01   31.98  n/a     .000
      Major System   /      1.0 02:S-1-FO-D1J      .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:S-1-FO-D1N     5.11     .460 No_date   28:01   31.98  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-FO-D1N     5.11     .460 No_date   28:01   31.98  n/a     .000
                     +      1.0 02:S-1-FO-D1J      .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:S-1-FO-D1S     5.11     .460 No_date   28:01   31.98  n/a     .000
R0002:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-FO-D1S     5.11     .460 No_date   28:01   31.98  n/a     .000
                 out <=     1.0 01:S-1-FO-D1R     5.11     .029 No_date   29:30   31.98  n/a     .000
            overflow <=     1.0 03:S-1FOD1ovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.9836E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:980-out      330.38    3.791 No_date   29:25   28.56  n/a     .000
                     +      1.0 02:S-1-FO-D1R     5.11     .029 No_date   29:30   31.98  n/a     .000
                     +      1.0 02:S-1FOD1ovf      .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:520          335.49    3.820 No_date   29:25   28.61  n/a     .000
R0002:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:520          335.49    3.820 No_date   29:25   28.61  n/a     .000
       fname :520.0002
       remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0002:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:520          335.49    3.820 No_date   29:25   28.61  n/a     .000
      [RDT= 1.00] out<-     1.0 01:520-out      335.49    3.787 No_date   29:32   28.61  n/a     .000
       [L/S/n=  860./ .587/.035]
       {Vmax= 1.196:Dmax=  .520}
R0002:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-FO-F-D    14.96    1.215 No_date   28:02   31.98 .703     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0002:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-FO-F-D    14.96    1.215 No_date   28:02   31.98  n/a     .000
      Major System   /      1.0 02:S-1FO-F-DJ      .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:S-1FO-F-DN    14.96    1.215 No_date   28:02   31.98  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1FO-F-DJ      .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1FO-F-DN    14.96    1.215 No_date   28:02   31.98  n/a     .000
                  SUM=      1.0 01:S-1FO-F-DS    14.96    1.215 No_date   28:02   31.98  n/a     .000
R0002:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1FO-F-DS    14.96    1.215 No_date   28:02   31.98  n/a     .000
                 out <=     1.0 01:S-1FO-F-DR    14.96     .086 No_date   29:33   31.98  n/a     .000
            overflow <=     1.0 03:S-1FoFDovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2877E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D8         5.27     .475 No_date   28:02   23.32 .512     .000
       [XIMP=.32:TIMP=.65]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-D8         5.27     .475 No_date   28:02   23.32  n/a     .000
      Major System   /      1.0 02:S-1-D8J         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:S-1-D8N        5.27     .475 No_date   28:02   23.32  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-D8J         .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1-D8N        5.27     .475 No_date   28:02   23.32  n/a     .000
                  SUM=      1.0 01:S-1-D8S        5.27     .475 No_date   28:02   23.32  n/a     .000
R0002:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-D8S        5.27     .475 No_date   28:02   23.32  n/a     .000
                 out <=     1.0 01:S-1-D8R        5.27     .027 No_date   28:51   23.32  n/a     .000
            overflow <=     1.0 03:S-1-D8Rovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.8901E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-A         75.88     .912 No_date   28:37   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0002:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:W_CLAR_UND    35.65     .286 No_date   29:12   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0002:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_FO       53577.82   47.599 No_date   35:11   12.82  n/a     .000
                     +      1.0 02:520-out      335.49    3.787 No_date   29:32   28.61  n/a     .000
                     +      1.0 02:MS_P10        73.29    1.033 No_date   28:50   31.34  n/a     .000
                     +      1.0 02:P10-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:W_CLAR_UND    35.65     .286 No_date   29:12   14.83  n/a     .000
                     +      1.0 02:S-1FoFDovf      .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1FO-F-DR    14.96     .086 No_date   29:33   31.98  n/a     .000
                     +      1.0 02:S-1-D8Rovf      .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1-D8R        5.27     .027 No_date   28:51   23.32  n/a     .000
                     +      1.0 02:S-1-A         75.88     .912 No_date   28:37   14.83  n/a     .000
                  SUM=      1.0 01:SN_FO      54118.36   49.278 No_date   34:33   12.96  n/a     .000
R0002:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_FO      54118.36   49.278 No_date   34:33   12.96  n/a     .000
       fname :SN_FO.0002
       remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0002:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_FO      54118.36   49.278 No_date   34:33   12.96  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:N_CE       54118.36   49.269 No_date   34:41   12.96  n/a     .000
       [L/S/n=  159./ .082/.035]
       {Vmax= 1.115:Dmax= 2.629}
#*************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#*************************************************************************
R0002:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:S-1-B         55.36     .825 No_date   28:24   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp=  .45]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0002:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D1        21.67    1.802 No_date   28:02   32.20 .707     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-D1        21.67    1.802 No_date   28:02   32.20  n/a     .000
      Major System   /      1.0 02:S-1-D1J         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:S-1-D1N       21.67    1.802 No_date   28:02   32.20  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-D1J         .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1-D1N       21.67    1.802 No_date   28:02   32.20  n/a     .000
                  SUM=      1.0 01:S-1-D1S       21.67    1.802 No_date   28:02   32.20  n/a     .000
R0002:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-D1S       21.67    1.802 No_date   28:02   32.20  n/a     .000
                 out <=     1.0 01:S-1-D1R       21.67     .126 No_date   29:27   32.20  n/a     .000
            overflow <=     1.0 03:S-1-D1Rovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.4209E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D4         3.28     .322 No_date   28:00   32.20 .707     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-D4         3.28     .322 No_date   28:00   32.20  n/a     .000
      Major System   /      1.0 02:S-1-D4J         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:S-1-D4N        3.28     .322 No_date   28:00   32.20  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-D4J         .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1-D4N        3.28     .322 No_date   28:00   32.20  n/a     .000
                  SUM=      1.0 01:S-1-D4S        3.28     .322 No_date   28:00   32.20  n/a     .000
R0002:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-D4S        3.28     .322 No_date   28:00   32.20  n/a     .000
                 out <=     1.0 01:S-1-D4R        3.28     .019 No_date   29:16   32.20  n/a     .000
            overflow <=     1.0 03:S-1-D4Rovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.6378E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D5        12.84    1.124 No_date   28:02   32.20 .707     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-D5        12.84    1.124 No_date   28:02   32.20  n/a     .000
      Major System   /      1.0 02:S-1-D5J         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:S-1-D5N       12.84    1.124 No_date   28:02   32.20  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-D5J         .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1-D5N       12.84    1.124 No_date   28:02   32.20  n/a     .000
                  SUM=      1.0 01:S-1-D5S       12.84    1.124 No_date   28:02   32.20  n/a     .000
R0002:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-D5S       12.84    1.124 No_date   28:02   32.20  n/a     .000
                 out <=     1.0 01:S-1-D5R       12.84     .075 No_date   29:23   32.20  n/a     .000
            overflow <=     1.0 03:S-1-D5Rovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2495E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D6         1.75     .176 No_date   28:00   32.20 .707     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-D6         1.75     .176 No_date   28:00   32.20  n/a     .000
      Major System   /      1.0 02:S-1-D6J         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:S-1-D6N        1.75     .176 No_date   28:00   32.20  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-D6J         .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1-D6N        1.75     .176 No_date   28:00   32.20  n/a     .000
                  SUM=      1.0 01:S-1-D6S        1.75     .176 No_date   28:00   32.20  n/a     .000
R0002:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-D6S        1.75     .176 No_date   28:00   32.20  n/a     .000
                 out <=     1.0 01:S-1-D6R        1.75     .010 No_date   29:14   32.20  n/a     .000
            overflow <=     1.0 03:S-1-D6Rovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3405E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-D7         2.03     .204 No_date   28:00   32.20 .707     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-D7         2.03     .204 No_date   28:00   32.20  n/a     .000
      Major System   /      1.0 02:S-1-D7J         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:S-1-D7N        2.03     .204 No_date   28:00   32.20  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-D7J         .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1-D7N        2.03     .204 No_date   28:00   32.20  n/a     .000
                  SUM=      1.0 01:S-1-D7S        2.03     .204 No_date   28:00   32.20  n/a     .000
R0002:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-D7S        2.03     .204 No_date   28:00   32.20  n/a     .000
                 out <=     1.0 01:S-1-D7R        2.03     .012 No_date   29:15   32.20  n/a     .000
            overflow <=     1.0 03:S-1-D7Rovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3948E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#*************************************************************************
R0002:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ      1.77     .141 No_date   28:00   27.78 .610     .000
       [XIMP=.46:TIMP=.59]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0002:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ      1.77     .141 No_date   28:00   27.78  n/a     .000
                 out <=     1.0 01:W_CLAR_Mln     1.77     .141 No_date   28:00   27.78  n/a     .000
            overflow <=     1.0 03:W_CLAR_Mj       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.6675E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL   119.40    7.746 No_date   28:06   31.34 .689     .000
       [XIMP=.60:TIMP=.65]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:W_CLAR_ALL   119.40    7.746 No_date   28:06   31.34  n/a     .000
                     +      1.0 02:W_CLAR_Mj       .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:W_CLAR       119.40    7.746 No_date   28:06   31.34  n/a     .000
R0002:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:W_CLAR       119.40    7.746 No_date   28:06   31.34  n/a     .000
       fname :W_CLAR.0002
       remark:Total Flows to West Clarke
#*************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*************************************************************************
R0002:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:W_CLAR       119.40    7.746 No_date   28:06   31.34  n/a     .000
                 out <=     1.0 01:MS_P2        119.40     .816 No_date   29:25   31.34  n/a     .000
```

```
            overflow <=    1.0 03:P2-OVF            .00      .000 No_date    0:00      .00  n/a      .000
      {MxStoUsed=.2096E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
#***************************************************************************
R0002:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_CE        54118.36   49.269 No_date   34:41    12.96  n/a      .000
                    +      1.0 02:S-1-D4R         3.28     .019 No_date   29:16    32.20  n/a      .000
                    +      1.0 02:S-1-D5R        12.84     .075 No_date   29:23    32.20  n/a      .000
                    +      1.0 02:S-1-D4Rovf       .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:S-1-D5Rovf       .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:MS_P2         119.40     .816 No_date   29:25    31.34  n/a      .000
                    +      1.0 02:P2-OVF           .00     .000 No_date    0:00      .00  n/a      .000
                 SUM=      1.0 01:SN_CE       54253.88   49.833 No_date   34:41    13.00  n/a      .000
R0002:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_CE       54253.88   49.833 No_date   34:41    13.00  n/a      .000
      fname :SN_CE.0002
      remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0002:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_CE       54253.88   49.833 No_date   34:41    13.00  n/a      .000
 *   [RDT= 1.00] out<-     1.0 01:5737        54253.88   48.535 No_date   37:45    13.00  n/a      .000
      [L/S/n=  270./ .018/.035]
      {Vmax=  .611:Dmax= 3.459}
R0002:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:5737        54253.88   48.535 No_date   37:45    13.00  n/a      .000
                    +      1.0 02:S-1-D1R        21.67     .126 No_date   29:27    32.20  n/a      .000
                    +      1.0 02:S-1-D6R         1.75     .010 No_date   29:14    32.20  n/a      .000
                    +      1.0 02:S-1-D7R         2.03     .012 No_date   29:15    32.20  n/a      .000
                    +      1.0 02:S-1-D1Rovf       .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:S-1-D6Rovf       .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:S-1-D7Rovf       .00     .000 No_date    0:00      .00  n/a      .000
                 SUM=      1.0 01:5002        54279.33   48.627 No_date   37:44    13.01  n/a      .000
R0002:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:5002        54279.33   48.627 No_date   37:44    13.01  n/a      .000
      fname :5002.0002
      remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m  That is because of adding station 5737 be
R0002:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:5002        54279.33   48.627 No_date   37:44    13.01  n/a      .000
     [RDT= 1.00] out<-     1.0 01:N_WCa       54279.33   48.684 No_date   37:20    13.01  n/a      .000
      [L/S/n=  245./ .095/.035]
      {Vmax=  .960:Dmax= 2.010}
R0002:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCa       54279.33   48.684 No_date   37:20    13.01  n/a      .000
     [RDT= 1.00] out<-     1.0 01:N_WCb       54279.33   48.709 No_date   37:36    13.01  n/a      .000
      [L/S/n=  245./ .095/.035]
      {Vmax=  .961:Dmax= 2.011}
R0002:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCb       54279.33   48.709 No_date   37:36    13.01  n/a      .000
     [RDT= 1.00] out<-     1.0 01:N_WC        54279.33   48.660 No_date   36:26    13.01  n/a      .000
      [L/S/n=  245./ .095/.035]
      {Vmax=  .961:Dmax= 2.011}
#***************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0002:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WC        54279.33   48.660 No_date   36:26    13.01  n/a      .000
     [RDT= 1.00] out<-     1.0 01:N_KB        54279.33   48.613 No_date   37:48    13.01  n/a      .000
      [L/S/n= 1020./ .050/.035]
      {Vmax=  .848:Dmax= 2.423}
#***************************************************************************
#    Catchment KEN_BU
#     - To Kennedy-Burnett SWM Facility
#     - Outlets to Fraser-Clarke drain (north of the Jock)
#     - Medium density residential subdivision
#***************************************************************************
#***************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#     - Rating curve obtained from URTKBP
#     - Tributary Drainage Area to Pond = 160 ha
#***************************************************************************
R0002:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82    1.627 No_date   28:18    14.35 .315      .000
      [XIMP=.10:TIMP=.40]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01A         40.82    1.627 No_date   28:18    14.35  n/a      .000
     Major System   /      1.0 02:KB-01A-MJ        .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-01A-MN      40.82    1.627 No_date   28:18    14.35  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01A-MJ        .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-01A-MN      40.82    1.627 No_date   28:18    14.35  n/a      .000
                 SUM=      1.0 01:KB-01A-S       40.82    1.627 No_date   28:18    14.35  n/a      .000
R0002:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10    1.062 No_date   28:08    16.28 .358      .000
      [XIMP=.19:TIMP=.38]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01B         31.10    1.062 No_date   28:08    16.28  n/a      .000
     Major System   /      1.0 02:KB-01B-MJ        .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-01B-MN      31.10    1.062 No_date   28:08    16.28  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01B-MJ        .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-01B-MN      31.10    1.062 No_date   28:08    16.28  n/a      .000
                 SUM=      1.0 01:KB-01B-S       31.10    1.062 No_date   28:08    16.28  n/a      .000
R0002:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78     .776 No_date   28:06    17.09 .375      .000
      [XIMP=.20:TIMP=.41]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01C         13.78     .776 No_date   28:06    17.09  n/a      .000
     Major System   /      1.0 02:KB-01C-MJ        .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-01C-MN      13.78     .776 No_date   28:06    17.09  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01C-MJ        .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-01C-MN      13.78     .776 No_date   28:06    17.09  n/a      .000
                 SUM=      1.0 01:KB-01C-S       13.78     .776 No_date   28:06    17.09  n/a      .000
R0002:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-03          84.78    3.788 No_date   28:12    16.73 .368      .000
      [XIMP=.20:TIMP=.39]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-03          84.78    3.788 No_date   28:12    16.73  n/a      .000
     Major System   /      1.0 02:KB-03-MJ         .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-03-MN       84.78    3.788 No_date   28:12    16.73  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-03-MJ         .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-03-MN       84.78    3.788 No_date   28:12    16.73  n/a      .000
                 SUM=      1.0 01:KB-03-S        84.78    3.788 No_date   28:12    16.73  n/a      .000
R0002:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-04           6.95     .792 No_date   28:01    38.80 .853      .000
      [XIMP=.85:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-04           6.95     .792 No_date   28:01    38.80  n/a      .000
     Major System   /      1.0 02:KB-04-MJ         .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-04-MN        6.95     .503 No_date   27:53    39.02  n/a      .000
      {MjSysSto=.1541E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-04-MJ         .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-04-MN        6.95     .503 No_date   27:53    39.02  n/a      .000
                 SUM=      1.0 01:KB-04-S         6.95     .503 No_date   27:53    39.02  n/a      .000
R0002:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-05           5.19     .653 No_date   28:01    41.29 .907      .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-06          12.93    1.683 No_date   28:00    39.68 .872      .000
      [XIMP=.87:TIMP=.87]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-06          12.93    1.683 No_date   28:00    39.68  n/a      .000
     Major System   /      1.0 02:KB-06-MJ         .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-06-MN       12.93    1.683 No_date   28:00    39.68  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-06-MJ         .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-06-MN       12.93    1.683 No_date   28:00    39.68  n/a      .000
                 SUM=      1.0 01:KB-06-S        12.93    1.683 No_date   28:00    39.68  n/a      .000
R0002:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-11           4.03     .425 No_date   28:00    32.17 .707      .000
      [XIMP=.68:TIMP=.68]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-11           4.03     .425 No_date   28:00    32.17  n/a      .000
     Major System   /      1.0 02:KB-11-MJ         .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-11-MN        4.03     .425 No_date   28:00    32.17  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-11-MJ         .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-11-MN        4.03     .425 No_date   28:00    32.17  n/a      .000
                 SUM=      1.0 01:KB-11-S         4.03     .425 No_date   28:00    32.17  n/a      .000
R0002:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S1              4.99     .689 No_date   28:00    41.29 .907      .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-15           2.15     .241 No_date   28:00    37.11 .815      .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01A-S       40.82    1.627 No_date   28:18    14.35  n/a      .000
                    +      1.0 02:KB-01B-S       31.10    1.062 No_date   28:08    16.28  n/a      .000
                    +      1.0 02:KB-01C-S       13.78     .776 No_date   28:06    17.09  n/a      .000
                    +      1.0 02:KB-03-S        84.78    3.788 No_date   28:12    16.73  n/a      .000
                    +      1.0 02:KB-04-S         6.95     .503 No_date   27:53    39.02  n/a      .000
                    +      1.0 02:KB-05           5.19     .653 No_date   28:01    41.29  n/a      .000
                    +      1.0 02:KB-06-S        12.93    1.683 No_date   28:00    39.68  n/a      .000
                    +      1.0 02:KB-11-S         4.03     .425 No_date   28:00    32.17  n/a      .000
                    +      1.0 02:KB-15           2.15     .241 No_date   28:00    37.11  n/a      .000
                    +      1.0 02:S1              4.99     .689 No_date   28:00    41.29  n/a      .000
                 SUM=      1.0 01:KB-P1         206.72    9.491 No_date   28:02    20.13  n/a      .000
R0002:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:KB-P1         206.72    9.491 No_date   28:02    20.13  n/a      .000
                out <=     1.0 01:KB-P1R        206.72    8.405 No_date   28:13    20.13  n/a      .000
            overflow <=    1.0 03:KB-P1ovf         .00     .000 No_date    0:00      .00  n/a      .000
      {MxStoUsed=.3779E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-P1R        206.72    8.405 No_date   28:13    20.13  n/a      .000
                    +      1.0 02:KB-P1ovf         .00     .000 No_date    0:00      .00  n/a      .000
                 SUM=      1.0 01:KB-Pond1      206.72    8.405 No_date   28:13    20.13  n/a      .000
R0002:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:KB-Pond1      206.72    8.405 No_date   28:13    20.13  n/a      .000
      fname :KB-Pond1.0002
      remark:Total Flows at KB first pond
R0002:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-07          10.86    1.337 No_date   28:00    39.32 .864      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-07          10.86    1.337 No_date   28:00    39.32  n/a      .000
     Major System   /      1.0 02:KB-07-MJ         .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-07-MN       10.86    1.337 No_date   28:00    39.32  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-07-MJ         .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-07-MN       10.86    1.337 No_date   28:00    39.32  n/a      .000
                 SUM=      1.0 01:KB-07-S        10.86    1.337 No_date   28:00    39.32  n/a      .000
R0002:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-08           6.61     .651 No_date   28:00    30.82 .677      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-08           6.61     .651 No_date   28:00    30.82  n/a      .000
     Major System   /      1.0 02:KB-08-MJ         .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-08-MN        6.61     .651 No_date   28:00    30.82  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-08-MJ         .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-08-MN        6.61     .651 No_date   28:00    30.82  n/a      .000
                 SUM=      1.0 01:KB-08-S         6.61     .651 No_date   28:00    30.82  n/a      .000
R0002:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-09           2.60     .344 No_date   28:00    38.64 .849      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-10_1         2.37     .314 No_date   28:00    38.64 .849      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-10_2         1.14     .153 No_date   28:00    38.64 .849      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-12           4.86     .581 No_date   28:00    36.37 .799      .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-12           4.86     .581 No_date   28:00    36.37  n/a      .000
     Major System   /      1.0 02:KB-12-MJ         .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-12-MN        4.86     .581 No_date   28:00    36.37  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-12-MJ         .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-12-MN        4.86     .581 No_date   28:00    36.37  n/a      .000
                 SUM=      1.0 01:KB-12-S         4.86     .581 No_date   28:00    36.37  n/a      .000
R0002:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-13          10.19     .970 No_date   28:00    30.82 .677      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-13          10.19     .970 No_date   28:00    30.82  n/a      .000
     Major System   /      1.0 02:KB-13-MJ         .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-13-MN       10.19     .970 No_date   28:00    30.82  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-13-MJ         .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-13-MN       10.19     .970 No_date   28:00    30.82  n/a      .000
                 SUM=      1.0 01:KB-13-S        10.19     .970 No_date   28:00    30.82  n/a      .000
R0002:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-14           5.47     .543 No_date   28:00    30.82 .677      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-14           5.47     .543 No_date   28:00    30.82  n/a      .000
     Major System   /      1.0 02:KB-14-MJ         .00     .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-14-MN        5.47     .543 No_date   28:00    30.82  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-14-MJ         .00     .000 No_date    0:00      .00  n/a      .000
                    +      1.0 02:KB-14-MN        5.47     .543 No_date   28:00    30.82  n/a      .000
                 SUM=      1.0 01:KB-14-S         5.47     .543 No_date   28:00    30.82  n/a      .000
R0002:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-16_2         3.42     .337 No_date   28:01    33.97 .746      .000
      [XIMP=.71:TIMP=.71]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-Pond1      206.72    8.405 No_date   28:13    20.13  n/a      .000
                    +      1.0 02:KB-07-S        10.86    1.337 No_date   28:00    39.32  n/a      .000
                    +      1.0 02:KB-08-S         6.61     .651 No_date   28:00    30.82  n/a      .000
                    +      1.0 02:KB-09           2.60     .344 No_date   28:00    38.64  n/a      .000
                    +      1.0 02:KB-10_1         2.37     .314 No_date   28:00    38.64  n/a      .000
                    +      1.0 02:KB-10_2         1.14     .153 No_date   28:00    38.64  n/a      .000
                    +      1.0 02:KB-12-S         4.86     .581 No_date   28:00    36.37  n/a      .000
                    +      1.0 02:KB-13-S        10.19     .970 No_date   28:00    30.82  n/a      .000
                    +      1.0 02:KB-14-S         5.47     .543 No_date   28:00    30.82  n/a      .000
                    +      1.0 02:KB-16_2         3.42     .337 No_date   28:01    33.97  n/a      .000
                 SUM=      1.0 01:KB-P2         254.24   11.772 No_date   28:02    22.82  n/a      .000
R0002:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:KB-P2         254.24   11.772 No_date   28:02    22.82  n/a      .000
                out <=     1.0 01:KB-P2R        254.24    9.930 No_date   28:12    22.82  n/a      .000
            overflow <=    1.0 03:KB-P2ovf         .00     .000 No_date    0:00      .00  n/a      .000
      {MxStoUsed=.4507E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0002:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-P2R        254.24    9.930 No_date   28:12    22.82  n/a      .000
                    +      1.0 02:KB-P2ovf         .00     .000 No_date    0:00      .00  n/a      .000
                 SUM=      1.0 01:KB-Pond2      254.24    9.930 No_date   28:12    22.82  n/a      .000
R0002:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:KB-Pond2      254.24    9.930 No_date   28:12    22.82  n/a      .000
      fname :KB-Pond2.0002
      remark:Total Flows at KB second pond
R0002:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-16_1         2.80     .293 No_date   28:01    35.54 .781      .000
      [XIMP=.75:TIMP=.75]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
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        [IaRECimp=   4.00:  IaRECper=    4.00]
R0002:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:KB-Pond2      254.24    9.930 No_date    28:12    22.82  n/a      .000
                       +     1.0 02:KB-16_1         2.80     .293 No_date    28:01    35.54  n/a      .000
                   SUM=      1.0 01:KB-P3         257.04   10.049 No_date    28:11    22.96  n/a      .000
R0002:C00279-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:KB-P3         257.04   10.049 No_date    28:11    22.96  n/a      .000
                   out <=    1.0 01:KB-P3R         18.54     .051 No_date    18:09    22.96  n/a      .000
              overflow <=    1.0 03:KB-P3ovf      238.50    9.997 No_date    28:11    22.96  n/a      .000
      {MxStoUsed=.2001E-02  m3,  TotOvfVol=.5477E+01  m3,  N-Ovf=     1,  TotDurOvf=    22.hrs}
R0002:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:KB-P3R         18.54     .051 No_date    18:09    22.96  n/a      .000
                       +     1.0 02:KB-P3ovf      238.50    9.997 No_date    28:11    22.96  n/a      .000
                   SUM=      1.0 01:KB-Pond3      257.04   10.048 No_date    28:11    22.96  n/a      .000
R0002:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:KB-Pond3      257.04   10.048 No_date    28:11    22.96  n/a      .000
        fname :KB-Pond3.0002
        remark:Total Flows at KB third pond
#***************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#     - TO FRASER-CLARKE DRAIN
#***************************************************************************
R0002:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-01            8.03     .575 No_date    28:01    23.89 .525      .000
        [XIMP=.47:TIMP=.47]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
R0002:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:FC-01            8.03     .575 No_date    28:01    23.89  n/a      .000
      Major System   /       1.0 02:FC-01-MJ          .00     .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:FC-01-MN         8.03     .575 No_date    28:01    23.89  n/a      .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:FC-01-MJ          .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:FC-01-MN         8.03     .575 No_date    28:01    23.89  n/a      .000
                   SUM=      1.0 01:FC-01-S          8.03     .575 No_date    28:01    23.89  n/a      .000
R0002:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-02           16.05    1.936 No_date    28:01    41.29 .907      .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
R0002:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:FC-02           16.05    1.936 No_date    28:01    41.29  n/a      .000
      Major System   /       1.0 02:FC-02-MJ          .00     .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:FC-02-MN        16.05    1.159 No_date    27:52    41.31  n/a      .000
        {MjSysSto=.4641E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:FC-02-MJ          .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:FC-02-MN        16.05    1.159 No_date    27:52    41.31  n/a      .000
                   SUM=      1.0 01:FC-02-S         16.05    1.159 No_date    27:52    41.31  n/a      .000
R0002:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-03            7.37     .687 No_date    28:01    30.32 .666      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
R0002:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:FC-03            7.37     .687 No_date    28:01    30.32  n/a      .000
      Major System   /       1.0 02:FC-03-MJ          .00     .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:FC-03-MN         7.37     .358 No_date    27:49    30.49  n/a      .000
        {MjSysSto=.2043E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:FC-03-MJ          .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:FC-03-MN         7.37     .358 No_date    27:49    30.49  n/a      .000
                   SUM=      1.0 01:FC-03-S          7.37     .358 No_date    27:49    30.49  n/a      .000
R0002:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-04           12.87    1.148 No_date    28:01    30.32 .666      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
R0002:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:FC-04           12.87    1.148 No_date    28:01    30.32  n/a      .000
      Major System   /       1.0 02:FC-04-MJ          .00     .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:FC-04-MN        12.87     .741 No_date    27:53    30.44  n/a      .000
        {MjSysSto=.2134E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:FC-04-MJ          .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:FC-04-MN        12.87     .741 No_date    27:53    30.44  n/a      .000
                   SUM=      1.0 01:FC-04-S         12.87     .741 No_date    27:53    30.44  n/a      .000
#***************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#     - TO JOCK RIVER
#***************************************************************************
R0002:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-01            8.24     .764 No_date    28:01    30.32 .666      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
R0002:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:JR-01            8.24     .764 No_date    28:01    30.32  n/a      .000
      Major System   /       1.0 02:JR-01-MJ          .00     .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:JR-01-MN         8.24     .563 No_date    28:13    30.43  n/a      .000
        {MjSysSto=.8257E+02,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:JR-01-MJ          .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:JR-01-MN         8.24     .563 No_date    27:55    30.43  n/a      .000
                   SUM=      1.0 01:JR-01-S          8.24     .563 No_date    27:55    30.43  n/a      .000
R0002:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-02            1.59     .162 No_date    28:00    30.32 .666      .000
        [XIMP=.64:TIMP=.64]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
R0002:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:JR-02            1.59     .162 No_date    28:00    30.32  n/a      .000
      Major System   /       1.0 02:JR-02-MJ          .00     .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:JR-02-MN         1.59     .153 No_date    27:58    30.45  n/a      .000
        {MjSysSto=.1236E+01,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:JR-02-MJ          .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:JR-02-MN         1.59     .153 No_date    27:58    30.45  n/a      .000
                   SUM=      1.0 01:JR-02-S          1.59     .153 No_date    27:58    30.45  n/a      .000
#***************************************************************************
#    Catchment FRASER
#     - To Fraser-Clarke drain (north of the Jock)
#     - Developed land with assumed 43% imp.
#     - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#     - 2020-12-17 All Fraser is undeveloped (Nashyd)
#***************************************************************************
R0002:C00300-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FRASER-DRN      13.65     .212 No_date    28:22    14.83 .326      .000
        [CN= 77.0:  N= 3.00:  Tp=  .43]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00301-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FRASER-D        21.61    1.710 No_date    28:02    30.87 .678      .000
        [XIMP=.58:TIMP=.58]
        [LOSS= 2 :CN= 80.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
        [SMIN= 26.32:  SMAX=175.50:  SK= .010]
R0002:C00302-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:FRASER-D        21.61    1.710 No_date    28:02    30.87  n/a      .000
      Major System   /       1.0 02:FRASER-J          .00     .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:FRASER-N        21.61    1.710 No_date    28:02    30.87  n/a      .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00303-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:FRASER-J          .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:FRASER-N        21.61    1.710 No_date    28:02    30.87  n/a      .000
                   SUM=      1.0 01:FRASER-S        21.61    1.710 No_date    28:02    30.87  n/a      .000
R0002:C00304-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:KB-Pond3      257.04   10.048 No_date    28:11    22.96  n/a      .000
                       +     1.0 02:S-1-B          55.36     .825 No_date    28:24    14.83  n/a      .000
                       +     1.0 02:FRASER-DRN     13.65     .212 No_date    28:22    14.83  n/a      .000
                       +     1.0 02:FRASER-S       21.61    1.710 No_date    28:02    30.87  n/a      .000
                       +     1.0 02:N_KB         54279.33   48.613 No_date    37:48    13.01  n/a      .000
                       +     1.0 02:FC-01-S         8.03     .575 No_date    28:01    23.89  n/a      .000
                       +     1.0 02:FC-02-S        16.05    1.159 No_date    27:52    41.31  n/a      .000
                       +     1.0 02:FC-03-S         7.37     .358 No_date    27:49    30.49  n/a      .000
                   SUM=      1.0 01:4241         54658.44   48.897 No_date    37:48    13.08  n/a      .000
R0002:C00305-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:4241         54658.44   48.897 No_date    37:48    13.08  n/a      .000
        fname :4241.0002
        remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0002:C00306-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:4241         54658.44   48.897 No_date    37:48    13.08  n/a      .000
      [RDT= 1.00] out<-      1.0 01:4241-out     54658.44   48.922 No_date    37:46    13.08  n/a      .000
        [L/S/n=  294./ .109/.035]
        {Vmax=  .961:Dmax= 1.544}
R0002:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:4241-out     54658.44   48.922 No_date    37:46    13.08  n/a      .000
                       +     1.0 02:FC-04-S        12.87     .741 No_date    27:53    30.44  n/a      .000
                       +     1.0 02:JR-01-S         8.24     .563 No_date    27:55    30.43  n/a      .000
                       +     1.0 02:JR-02-S         1.59     .153 No_date    27:58    30.45  n/a      .000
                   SUM=      1.0 01:SN_KB        54681.13   48.944 No_date    37:46    13.09  n/a      .000
R0002:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_KB        54681.13   48.944 No_date    37:46    13.09  n/a      .000
        fname :SN_KB.0002
        remark:Total Flows before Station 3633
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0002:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:SN_KB        54681.13   48.944 No_date    37:46    13.09  n/a      .000
      [RDT= 1.00] out<-      1.0 01:N_TO         54681.13   48.905 No_date    37:53    13.09  n/a      .000
        [L/S/n=  608./ .247/.035]
        {Vmax= 1.299:Dmax= 1.136}
#***************************************************************************
#    Catchment Greenbank
#     - To Greenbank Drain (south of the Jock)
#     - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#     - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#***************************************************************************
R0002:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Greenbank       36.60    2.954 No_date    28:02    32.54 .715      .000
        [XIMP=.64:TIMP=.68]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:Greenbank       36.60    2.954 No_date    28:02    32.54  n/a      .000
                   out <=    1.0 01:GreenB_MN       36.60     .569 No_date    28:38    32.54  n/a      .000
              overflow <=    1.0 03:GreenB_MJ         .00     .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.6052E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_TO         54681.13   48.905 No_date    37:53    13.09  n/a      .000
                       +     1.0 02:GreenB_MJ         .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:GreenB_MN       36.60     .569 No_date    28:38    32.54  n/a      .000
                   SUM=      1.0 01:GreenB       54717.73   48.982 No_date    37:53    13.10  n/a      .000
R0002:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:GreenB       54717.73   48.982 No_date    37:53    13.10  n/a      .000
        fname :GreenB.0002
        remark:Total Flows at Greenbank Drain
#***************************************************************************
#    Catchment TODD
#     - To Todd Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#     - 2020-11-30 increase imp. based on P598(04)-11
#     - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#     - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#***************************************************************************
#     - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0002:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_MN2         2.10     .179 No_date    28:00    28.91 .635      .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_MN3          .12     .011 No_date    28:00    28.91 .635      .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_MJ         30.23    2.154 No_date    28:03    29.64 .651      .000
        [XIMP=.52:TIMP=.64]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_ALL       112.91    6.553 No_date    28:06    28.70 .631      .000
        [XIMP=.52:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:TODD_P           3.06     .295 No_date    28:00    31.76 .698      .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0002:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:TODD_MJ         30.23    2.154 No_date    28:03    29.64  n/a      .000
 *                 out <=    1.0 01:TODD_MJn        30.23    2.154 No_date    28:03    29.64  n/a      .000
              overflow <=    1.0 03:TODD_MJj          .00     .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.6551E-04  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
# 5-Year + 12% Capture
R0002:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:TODD_MN2         2.10     .179 No_date    28:00    28.91  n/a      .000
                   out <=    1.0 01:TODD_MN2n        2.10     .179 No_date    28:00    28.91  n/a      .000
              overflow <=    1.0 03:TODD_MN2j         .00     .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.6761E-04  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:TODD_MN3          .12     .011 No_date    28:00    28.91  n/a      .000
                   out <=    1.0 01:TODD_MN3n         .12     .010 No_date    28:00    28.91  n/a      .000
              overflow <=    1.0 03:TODD_MN3j         .00     .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.6566E-04  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A2              25.50    1.427 No_date    28:04    25.60 .563      .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0002:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A2              25.50    1.427 No_date    28:04    25.60  n/a      .000
      Major System   /       1.0 02:A2-MJ             .00     .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:A2-MN           25.50    1.427 No_date    28:04    25.60  n/a      .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:TODD_MN2n        2.10     .179 No_date    28:00    28.91  n/a      .000
                       +     1.0 02:TODD_MN3n         .12     .010 No_date    28:00    28.91  n/a      .000
                       +     1.0 02:TODD_MJj          .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:TODD_P           3.06     .295 No_date    28:00    31.77  n/a      .000
                       +     1.0 02:TODD_ALL       112.91    6.553 No_date    28:06    28.70  n/a      .000
                       +     1.0 02:W_CLAR_MJn       1.77     .141 No_date    28:00    27.78  n/a      .000
                   SUM=      1.0 01:TODD           119.95    6.882 No_date    28:05    28.77  n/a      .000
R0002:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:TODD           119.95    6.882 No_date    28:05    28.77  n/a      .000
        fname :TODD.0002
        remark:Total Flows at Todd Drain
#***************************************************************************
#    Todd Pond 3
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#***************************************************************************
R0002:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:TODD           119.95    6.882 No_date    28:05    28.77  n/a      .000
                   out <=    1.0 01:MS_P3          119.95    1.033 No_date    29:08    28.76  n/a      .000
              overflow <=    1.0 03:P3-OVF            .00     .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.2183E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:GreenB       54717.73   48.982 No_date    37:53    13.10  n/a      .000
                       +     1.0 02:MS_P3          119.95    1.033 No_date    29:08    28.76  n/a      .000
                       +     1.0 02:P3-OVF            .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:TODD_MN2j         .00     .000 No_date     0:00      .00  n/a      .000
                       +     1.0 02:A2-MJ             .00     .000 No_date     0:00      .00  n/a      .000
                   SUM=      1.0 01:SN_TO        54837.69   49.122 No_date    37:53    13.13  n/a      .000
R0002:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_TO        54837.69   49.122 No_date    37:53    13.13  n/a      .000
        fname :SN_TO.0002
        remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0002:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:SN_TO        54837.69   49.122 No_date    37:53    13.13  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:N_TO         54837.69   48.890 No_date    38:55    13.13  n/a      .000
        [L/S/n=  280./ .050/.045]
        {Vmax=  .729:Dmax= 2.132}
R0002:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:N_TO         54837.69   48.890 No_date    38:55    13.13  n/a      .000
        fname :N_TO.0002
        remark:Total inflows at Station 2462
#***************************************************************************
#    Catchment CORRIG
#     - To Corrigan Drain (south of the Jock)
#     - Primarily Developed (medium density)
#     - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#***************************************************************************
R0002:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:corr1           15.87    1.352 No_date    28:02    31.77 .698      .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=    4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0002:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:corr1           15.87    1.352 No_date    28:02    31.77  n/a      .000
      Major System   /       1.0 02:corr1-MJ          .00     .000 No_date     0:00      .00  n/a      .000
      Minor System   \       1.0 03:corr1-MN        15.87    1.352 No_date    28:02    31.77  n/a      .000
        {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0002:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:corr2           12.47     .100 No_date    29:12    14.83 .326      .000
        [CN= 77.0:  N= 3.00:  Tp= 1.10]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
R0002:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A1-Corrig       15.75     .982 No_date    28:02    25.60 .563      .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
```

```
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:A1-Corrig     15.75     .982 No_date   28:02   25.60  n/a     .000
      Major System   /    1.0 02:A1-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:A1-MN         15.75     .982 No_date   28:02   25.60  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    1.0 01:B1             2.77     .033 No_date   28:09    9.64 .212     .000
        [CN= 56.0: N= 3.00: Tp=  .23]
        [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
        [InterEventTime=  12.00]
R0002:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A4             1.27     .116 No_date   28:01   32.20 .707     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:A4             1.27     .116 No_date   28:01   32.20  n/a     .000
      Major System   /    1.0 02:A4-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:A4-MN          1.27     .116 No_date   28:01   32.20  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:A1-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A1-MN         15.75     .982 No_date   28:02   25.60  n/a     .000
                    +     1.0 02:corr1-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:corr1-MN      15.87    1.352 No_date   28:02   31.77  n/a     .000
                    +     1.0 02:corr2         12.47     .100 No_date   29:12   14.83  n/a     .000
                    +     1.0 02:B1             2.77     .033 No_date   28:09    9.64  n/a     .000
                    +     1.0 02:A4-MN          1.27     .116 No_date   28:01   32.20  n/a     .000
                 SUM=     1.0 01:MH101         48.13    2.497 No_date   28:02   24.10  n/a     .000
R0002:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:MH101         48.13    2.497 No_date   28:02   24.10  n/a     .000
        fname :MH101.0002
        remark:Total Flows at MH101
R0002:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:MH101         48.13    2.497 No_date   28:02   24.10  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:101-102       48.13    2.412 No_date   28:03   24.10  n/a     .000
        [L/S/n=  368./ .540/.013]
        {Vmax= 2.789:Dmax=  .935}
        [Din= 1.05:Dused= 1.14}
R0002:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:A2-MN         25.50    1.427 No_date   28:04   25.60  n/a     .000
                    +     1.0 02:101-102       48.13    2.412 No_date   28:03   24.10  n/a     .000
                 SUM=     1.0 01:MH102         73.63    3.837 No_date   28:03   24.62  n/a     .000
R0002:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:MH102         73.63    3.837 No_date   28:03   24.62  n/a     .000
        fname :MH102.0002
        remark:Total Flows at MH102
R0002:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A5             1.60     .155 No_date   28:01   34.21 .752     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:A4-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A5             1.60     .155 No_date   28:01   34.21  n/a     .000
                 SUM=     1.0 01:A5T            1.60     .155 No_date   28:01   34.21  n/a     .000
R0002:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:A5T            1.60     .155 No_date   28:01   34.21  n/a     .000
      Major System   /    1.0 02:A5-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:A5-MN          1.60     .155 No_date   28:01   34.21  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:MH102         73.63    3.837 No_date   28:03   24.62  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:102-103       73.63    3.600 No_date   28:05   24.62  n/a     .000
        [L/S/n=  504./ .280/.013]
        {Vmax= 2.428:Dmax= 1.243}
        [Din= 1.50:Dused= 1.51}
R0002:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:102-103       73.63    3.600 No_date   28:05   24.62  n/a     .000
                    +     1.0 02:A5-MN          1.60     .155 No_date   28:01   34.21  n/a     .000
                 SUM=     1.0 01:MH103         75.23    3.728 No_date   28:05   24.82  n/a     .000
R0002:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:MH103         75.23    3.728 No_date   28:05   24.82  n/a     .000
        fname :MH103.0002
        remark:Total Flows at MH103
R0002:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:MH103         75.23    3.728 No_date   28:05   24.82  n/a     .000
      [RDT= 1.00] out<-   1.0 01:103-104       75.23    3.629 No_date   28:07   24.82  n/a     .000
        [L/S/n=  438./ .460/.013]
        {Vmax= 3.024:Dmax=  .924}
        [Din= 1.65:Dused= 1.65}
R0002:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A6             1.56     .152 No_date   28:01   34.21 .752     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:A5-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A6             1.56     .152 No_date   28:01   34.21  n/a     .000
                 SUM=     1.0 01:A6T            1.56     .152 No_date   28:01   34.21  n/a     .000
R0002:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:A6T            1.56     .152 No_date   28:01   34.21  n/a     .000
      Major System   /    1.0 02:A6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:A6-MN          1.56     .152 No_date   28:01   34.21  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:A6-MN          1.56     .152 No_date   28:01   34.21  n/a     .000
                    +     1.0 02:103-104       75.23    3.629 No_date   28:07   24.82  n/a     .000
                    +     1.0 02:TODD_MJn      30.23    2.154 No_date   28:03   29.64  n/a     .000
                 SUM=     1.0 01:MH104        107.02    5.765 No_date   28:05   26.32  n/a     .000
R0002:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:MH104        107.02    5.765 No_date   28:05   26.32  n/a     .000
        fname :MH104.0002
        remark:Total Flows at MH104
R0002:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B2            12.31     .731 No_date   28:03   25.66 .564     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:B2            12.31     .731 No_date   28:03   25.66  n/a     .000
      Major System   /    1.0 02:B2-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:B2-MN         12.31     .731 No_date   28:03   25.66  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:B2-MN         12.31     .731 No_date   28:03   25.66  n/a     .000
      [RDT= 1.00] out<-   1.0 01:315-333       12.31     .675 No_date   28:04   25.66  n/a     .000
        [L/S/n=  254./ .100/.013]
        {Vmax= 1.136:Dmax=  .665}
        [Din= 1.20:Dused= 1.20}
R0002:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B3             5.59     .346 No_date   28:02   25.66 .564     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:B3             5.59     .346 No_date   28:02   25.66  n/a     .000
      Major System   /    1.0 02:B3-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:B3-MN          5.59     .346 No_date   28:02   25.66  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:B3-MN          5.59     .346 No_date   28:02   25.66  n/a     .000
                    +     1.0 02:315-333       12.31     .675 No_date   28:04   25.66  n/a     .000
                 SUM=     1.0 01:MH333         17.90    1.009 No_date   28:04   25.66  n/a     .000
R0002:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:MH333         17.90    1.009 No_date   28:04   25.66  n/a     .000
        fname :MH333.0002
        remark:Total Flows at MH333
R0002:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:MH333         17.90    1.009 No_date   28:04   25.66  n/a     .000
      [RDT= 1.00] out<-   1.0 01:333-335       17.90     .937 No_date   28:05   25.66  n/a     .000
        [L/S/n=  251./ .100/.013]
        {Vmax= 1.217:Dmax=  .826}
        [Din= 1.20:Dused= 1.20}
R0002:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:333-335       17.90     .937 No_date   28:05   25.66  n/a     .000
      [RDT= 1.00] out<-   1.0 01:335-338       17.90     .888 No_date   28:07   25.66  n/a     .000
        [L/S/n=  185./ .100/.013]
        {Vmax= 1.199:Dmax=  .782}
        [Din= 1.20:Dused= 1.20}
R0002:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:335-338       17.90     .888 No_date   28:07   25.66  n/a     .000
      [RDT= 1.00] out<-   1.0 01:338-340       17.90     .838 No_date   28:08   25.66  n/a     .000
        [L/S/n=  233./ .100/.013]
        {Vmax= 1.194:Dmax=  .695}
        [Din= 1.35:Dused= 1.35}
R0002:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B4             7.60     .459 No_date   28:02   25.66 .564     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:B4             7.60     .459 No_date   28:02   25.66  n/a     .000
      Major System   /    1.0 02:B4-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:B4-MN          7.60     .459 No_date   28:02   25.66  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:338-340       17.90     .838 No_date   28:08   25.66  n/a     .000
                    +     1.0 02:B4-MN          7.60     .459 No_date   28:02   25.66  n/a     .000
                 SUM=     1.0 01:MH340         25.50    1.234 No_date   28:05   25.66  n/a     .000
R0002:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:MH340         25.50    1.234 No_date   28:05   25.66  n/a     .000
        fname :MH340.0002
        remark:Total Flows at MH340
R0002:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:MH340         25.50    1.234 No_date   28:05   25.66  n/a     .000
      [RDT= 1.00] out<-   1.0 01:340-104       25.50    1.182 No_date   28:07   25.66  n/a     .000
        [L/S/n=  240./ .150/.013]
        {Vmax= 1.502:Dmax=  .672}
        [Din= 1.65:Dused= 1.65}
R0002:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:340-104       25.50    1.182 No_date   28:07   25.66  n/a     .000
                    +     1.0 02:MH104        107.02    5.765 No_date   28:05   26.32  n/a     .000
                 SUM=     1.0 01:MH104T       132.52    6.925 No_date   28:05   26.19  n/a     .000
R0002:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:MH104T       132.52    6.925 No_date   28:05   26.19  n/a     .000
      [RDT= 1.00] out<-   1.0 01:104-105      132.52    6.452 No_date   28:06   26.19  n/a     .000
        [L/S/n=  380./ .100/.013]
        {Vmax= 1.871:Dmax= 1.542}
        {HGTH= 2.10:WDTH= 2.40}
R0002:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B5             2.20     .187 No_date   28:00   29.51 .648     .000
        [XIMP=.57:TIMP=.57]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:B5             2.20     .187 No_date   28:00   29.51  n/a     .000
      Major System   /    1.0 02:B5-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:B5-MN          2.20     .187 No_date   28:00   29.51  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A8              .96     .099 No_date   28:00   34.21 .752     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:A6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:A8              .96     .099 No_date   28:00   34.21  n/a     .000
                 SUM=     1.0 01:A8T             .96     .099 No_date   28:00   34.21  n/a     .000
R0002:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:A8T             .96     .099 No_date   28:00   34.21  n/a     .000
      Major System   /    1.0 02:A8-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:A8-MN           .96     .099 No_date   28:00   34.21  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:104-105      132.52    6.452 No_date   28:06   26.19  n/a     .000
                    +     1.0 02:B5-MN          2.20     .187 No_date   28:00   29.51  n/a     .000
                    +     1.0 02:A8-MN           .96     .099 No_date   28:00   34.21  n/a     .000
                    +     1.0 02:TODD_MN3j       .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:MH105        135.68    6.624 No_date   28:06   26.30  n/a     .000
R0002:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:MH105        135.68    6.624 No_date   28:06   26.30  n/a     .000
        fname :MH105.0002
        remark:Total Flows at MH105
R0002:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *   DIVERT HYD      ->   1.0 01:A8-MJ           .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=   1.0 02:A8-MJ-JR        .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=   1.0 03:A8-MJ-B6        .00     .000 No_date    0:00     .00  n/a     .000
R0002:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     DIVERT HYD      ->   1.0 01:MH105        135.68    6.624 No_date   28:06   26.30  n/a     .000
            diverted <=   1.0 02:MH105-JR      16.59    3.620 No_date   28:06   26.30  n/a     .000
            diverted <=   1.0 03:MH105-B6     119.09    3.004 No_date   28:06   26.30  n/a     .000
R0002:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B7             7.19     .479 No_date   28:01   25.66 .564     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:B4-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:B7             7.19     .479 No_date   28:01   25.66  n/a     .000
                 SUM=     1.0 01:B7-B4MJ        7.19     .479 No_date   28:01   25.66  n/a     .000
R0002:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:B7-B4MJ        7.19     .479 No_date   28:01   25.66  n/a     .000
      Major System   /    1.0 02:B7R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:B7R-MN         7.19     .479 No_date   28:01   25.66  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:B7R-MN         7.19     .479 No_date   28:01   25.66  n/a     .000
      [RDT= 1.00] out<-   1.0 01:360-106A       7.19     .451 No_date   28:02   25.66  n/a     .000
        [L/S/n=  167./ .100/.013]
        {Vmax= 1.023:Dmax=  .558}
        [Din= 1.05:Dused= 1.05}
R0002:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B6             3.29     .229 No_date   28:00   25.66 .564     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:B6             3.29     .229 No_date   28:00   25.66  n/a     .000
      Major System   /    1.0 02:B6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:B6-MN          3.29     .064 No_date   27:43   25.67  n/a     .000
        {MjSysSto=.1576E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:EX-LAND       32.50    2.093 No_date   28:02   26.85 .590     .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0002:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:EX-LAND       32.50    2.093 No_date   28:02   26.85  n/a     .000
      Major System   /    1.0 02:EX-LAND-MJ      .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:EX-LAND-MN    32.50    2.093 No_date   28:02   26.85  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:B7R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:EX-LAND-MJ      .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:B5-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:B6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:B6-MN          3.29     .064 No_date   27:43   25.67  n/a     .000
                    +     1.0 02:A8-MJ-B6        .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:B6-B7ExMJ      3.29     .064 No_date   27:43   25.67  n/a     .000
R0002:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:B6-B7ExMJ      3.29     .064 No_date   27:43   25.67  n/a     .000
      Major System   /    1.0 02:B6R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:B6R-MN         3.29     .064 No_date   27:43   25.67  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:MH105-B6     119.09    3.004 No_date   28:06   26.30  n/a     .000
      [RDT= 1.00] out<-   1.0 01:105-106A     119.09    3.006 No_date   28:08   26.30  n/a     .000
        [L/S/n=  208./ .100/.013]
        {Vmax= 1.596:Dmax= 1.247}
        [Din= 1.80:Dused= 1.80}
R0002:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:360-106A       7.19     .451 No_date   28:02   25.66  n/a     .000
                    +     1.0 02:105-106A     119.09    3.006 No_date   28:08   26.30  n/a     .000
                    +     1.0 02:B6R-MN         3.29     .064 No_date   27:43   25.67  n/a     .000
                    +     1.0 02:B6R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:MH106A       129.57    3.466 No_date   28:03   26.25  n/a     .000
R0002:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:MH106A       129.57    3.466 No_date   28:03   26.25  n/a     .000
        fname :MH106A.0002
        remark:Total Flows at MH106A
R0002:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:MH106A       129.57    3.466 No_date   28:03   26.25  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:106A-106     129.57    3.450 No_date   28:04   26.25  n/a     .000
        [L/S/n=  190./ .100/.013]
        {Vmax= 1.626:Dmax= 1.406}
        [Din= 1.80:Dused= 1.80}
R0002:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A9             2.44     .240 No_date   28:01   34.21 .752     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:A9             2.44     .240 No_date   28:01   34.21  n/a     .000
      Major System   /    1.0 02:A9-MJ           .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \    1.0 03:A9-MN          2.44     .240 No_date   28:01   34.21  n/a     .000
R0002:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:106A-106     129.57    3.450 No_date   28:04   26.25  n/a     .000
                    +     1.0 02:A9-MN          2.44     .240 No_date   28:01   34.21  n/a     .000
                 SUM=     1.0 01:MH106        132.01    3.666 No_date   28:03   26.40  n/a     .000
R0002:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:MH106        132.01    3.666 No_date   28:03   26.40  n/a     .000
        fname :MH106.0002
        remark:Total Flows at MH106
R0002:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->   1.0 02:MH106        132.01    3.666 No_date   28:03   26.40  n/a     .000
 *    [RDT= 1.00] out<-   1.0 01:106-107      132.01    3.602 No_date   28:06   26.40  n/a     .000
        [L/S/n=  123./ .100/.013]
        {Vmax= 1.631:Dmax= 1.482}
        [Din= 1.80:Dused= 1.81}
R0002:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A10            4.14     .246 No_date   28:01   23.49 .516     .000
        [XIMP=.35:TIMP=.47]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
```

```
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 33.81: SMAX=225.43: SK= .010]
 R0002:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD         1.0 01:A10           4.14     .246 No_date   28:01   23.49  n/a     .000
       Major System  /        1.0 02:A10-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System  \        1.0 03:A10-MN        4.14     .246 No_date   28:01   23.49  n/a     .000
          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0002:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:A11            10.61     .781 No_date   28:02   29.20 .642     .000
          [XIMP=.53:TIMP=.62]
          [LOSS= 2 :CN= 75.0]
          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 33.81: SMAX=225.43: SK= .010]
 R0002:C00404------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD         1.0 01:A11          10.61     .781 No_date   28:02   29.20  n/a     .000
       Major System  /        1.0 02:A11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System  \        1.0 03:A11-MN       10.61     .781 No_date   28:02   29.20  n/a     .000
          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0002:C00405------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:106-107     132.01    3.602 No_date   28:06   26.40  n/a     .000
                      +       1.0 02:A10-MN        4.14     .246 No_date   28:01   23.49  n/a     .000
                      +       1.0 02:A11-MN       10.61     .781 No_date   28:02   29.20  n/a     .000
                  SUM=        1.0 01:MH107       146.76    4.589 No_date   28:02   26.52  n/a     .000
 R0002:C00406------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                1.0 01:MH107       146.76    4.589 No_date   28:02   26.52  n/a     .000
          fname :MH107.0002
          remark:Total Flows at MH107
 R0002:C00407------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE PIPE      ->      1.0 02:MH107       146.76    4.589 No_date   28:02   26.52  n/a     .000
  *    [RDT= 1.00] out<-      1.0 01:107-119     146.76    4.493 No_date   28:07   26.52  n/a     .000
          [L/S/n=  114./ .120/.013]
          {Vmax= 1.848:Dmax= 1.558}
          [Din= 1.80:Dused= 1.90]
 R0002:C00408------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE PIPE      ->      1.0 02:107-119     146.76    4.493 No_date   28:07   26.52  n/a     .000
  *    [RDT= 1.00] out<-      1.0 01:119-108     146.76    4.469 No_date   28:07   26.52  n/a     .000
          [L/S/n=   66./ .120/.013]
          {Vmax= 1.838:Dmax= 1.546}
          [Din= 1.80:Dused= 1.88]
 R0002:C00409------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:A12            12.29     .834 No_date   28:01   25.66 .564     .000
          [XIMP=.41:TIMP=.54]
          [LOSS= 2 :CN= 75.0]
          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 33.81: SMAX=225.43: SK= .010]
 R0002:C00410------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD         1.0 01:A12          12.29     .834 No_date   28:01   25.66  n/a     .000
       Major System  /        1.0 02:A12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System  \        1.0 03:A12-MN       12.29     .834 No_date   28:01   25.66  n/a     .000
          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0002:C00411------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:A13             2.59     .239 No_date   28:02   34.21 .752     .000
          [XIMP=.71:TIMP=.71]
          [LOSS= 2 :CN= 75.0]
          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 33.81: SMAX=225.43: SK= .010]
 R0002:C00412------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD         1.0 01:A13           2.59     .239 No_date   28:02   34.21  n/a     .000
       Major System  /        1.0 02:A13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System  \        1.0 03:A13-MN        2.59     .239 No_date   28:02   34.21  n/a     .000
 R0002:C00413------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:Pond-Block      2.94     .190 No_date   28:01   24.31 .534     .000
          [XIMP=.41:TIMP=.41]
          [LOSS= 2 :CN= 75.0]
          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 33.81: SMAX=225.43: SK= .010]
 R0002:C00414------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:119-108     146.76    4.469 No_date   28:07   26.52  n/a     .000
                      +       1.0 02:A13-MN        2.59     .239 No_date   28:02   34.21  n/a     .000
                      +       1.0 02:A12-MN       12.29     .834 No_date   28:01   25.66  n/a     .000
                  SUM=        1.0 01:MH108       161.64    5.450 No_date   28:03   26.58  n/a     .000
 R0002:C00415------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                1.0 01:MH108       161.64    5.450 No_date   28:03   26.58  n/a     .000
          fname :MH108.0002
          remark:Total Flows at MH108
 R0002:C00416------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE PIPE      ->      1.0 02:MH108       161.64    5.450 No_date   28:03   26.58  n/a     .000
  *    [RDT= 1.00] out<-      1.0 01:108-116     161.64    5.396 No_date   28:04   26.58  n/a     .000
          [L/S/n=   77./ .130/.013]
          {Vmax= 1.987:Dmax= 1.637}
          [Din= 1.80:Dused= 1.99]
 R0002:C00417------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE PIPE      ->      1.0 02:108-116     161.64    5.396 No_date   28:04   26.58  n/a     .000
  *    [RDT= 1.00] out<-      1.0 01:116-corrig  161.64    5.363 No_date   28:04   26.58  n/a     .000
          [L/S/n=   80./ .130/.013]
          {Vmax= 1.983:Dmax= 1.631}
          [Din= 1.80:Dused= 1.99]
 R0002:C00418------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:116-corrig  161.64    5.363 No_date   28:04   26.58  n/a     .000
                      +       1.0 02:Pond-Block    2.94     .190 No_date   28:01   24.31  n/a     .000
                  SUM=        1.0 01:Corrigan    164.58    5.522 No_date   28:04   26.54  n/a     .000
 R0002:C00419------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                1.0 01:Corrigan    164.58    5.522 No_date   28:04   26.54  n/a     .000
          fname :Corrigan.0002
          remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
 R0002:C00420------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:Corrigan    164.58    5.522 No_date   28:04   26.54  n/a     .000
                   out <=     1.0 01:Co-P        164.58    4.479 No_date   28:12   26.54  n/a     .000
              overflow <=     1.0 03:Co-P-OVF       .00     .000 No_date    0:00     .00  n/a     .000
         {MxStoUsed=.9246E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0002:C00421------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:Co-P-OVF       .00     .000 No_date    0:00     .00  n/a     .000
                      +       1.0 02:Co-P        164.58    4.479 No_date   28:12   26.54  n/a     .000
                      +       1.0 02:N_TO      54837.69   48.890 No_date   38:55   13.13  n/a     .000
                      +       1.0 02:MH105-JR     16.59    3.620 No_date   28:06   26.30  n/a     .000
                      +       1.0 02:A8-MJ-JR       .00     .000 No_date    0:00     .00  n/a     .000
                      +       1.0 02:A9-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                      +       1.0 02:A10-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +       1.0 02:A11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +       1.0 02:A12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +       1.0 02:A13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=        1.0 01:corrig    55018.86   49.095 No_date   38:55   13.18  n/a     .000
 R0002:C00422------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                1.0 01:corrig    55018.86   49.095 No_date   38:55   13.18  n/a     .000
          fname :corrig.0002
          remark:Total Flows at Corrigan Pond
 #***************************************************************************
 #    Corrigan Pond 1
 #    - Rating curve obtained from Barrhaven South MSS modeling
 #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
 #***************************************************************************
 #
 # Hydrograph from Corrigan Drain routed to Jockvale Road
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
 #
 R0002:C00423------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:corrig    55018.86   49.095 No_date   38:55   13.18  n/a     .000
       [RDT= 1.00] out<-      1.0 01:N_MI      55018.86   49.093 No_date   38:58   13.18  n/a     .000
          [L/S/n=  580./ .445/.045]
          {Vmax= 1.454:Dmax= 1.224}
 #***************************************************************************
 #    Catchment MILLS
 #    - To SWM Facility north of the Jock
 #    - Primarily residental development
 #***************************************************************************
 R0002:C00424------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:MILLS         175.99    7.048 No_date   28:08   22.75 .500     .000
          [XIMP=.38:TIMP=.38]
          [LOSS= 2 :CN= 74.0]
          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 36.67: SMAX=244.49: SK= .010]
 #***************************************************************************
 #    Chapman Mills SWM Pond
 #    - Rating curve obtained from CCL hydraulic modeling
 #***************************************************************************
 R0002:C00425------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:MILLS       175.99    7.048 No_date   28:08   22.75  n/a     .000
                   out <=     1.0 01:MILL_P      175.99    2.401 No_date   28:46   22.75  n/a     .000
              overflow <=     1.0 03:MIL-OV         .00     .000 No_date    0:00     .00  n/a     .000
         {MxStoUsed=.1446E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0002:C00426------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:N_MI      55018.86   49.093 No_date   38:58   13.18  n/a     .000
                      +       1.0 02:MIL-OV         .00     .000 No_date    0:00     .00  n/a     .000
                      +       1.0 02:MILL_P      175.99    2.401 No_date   28:46   22.75  n/a     .000
                  SUM=        1.0 01:SN_MI     55194.85   49.313 No_date   38:56   13.21  n/a     .000
 R0002:C00427------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                1.0 01:SN_MI     55194.85   49.313 No_date   38:56   13.21  n/a     .000
          fname :SN_MI.0002
          remark:Total Flows at Jockvale Road
 #
 # Hydrograph from Jockvale Road routed to Heart's Desire
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
 #
 R0002:C00428------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:SN_MI     55194.85   49.313 No_date   38:56   13.21  n/a     .000
       [RDT= 1.00] out<-      1.0 01:N_DE      55194.85   49.260 No_date   39:17   13.21  n/a     .000
          [L/S/n= 1962./ .223/.045]
          {Vmax= 1.144:Dmax= 1.611}
 #***************************************************************************
 #    Catchment DESIRE
 #    - To Jock River (north of the Jock)
 #    - Rural-estate subdivision (Heart's Desire Community)
 #***************************************************************************
 R0002:C00429------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:DESIRE         23.78     .936 No_date   28:03   19.26 .423     .000
          [XIMP=.25:TIMP=.25]
          [LOSS= 2 :CN= 77.0]
          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 31.15: SMAX=207.66: SK= .010]
 #***************************************************************************
 #    Catchment JOCKVA
 #    - To Jockvale SWM Facility
 #    - Residential development & golf course
 #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
 #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
 #***************************************************************************
 R0002:C00430------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD   1.0 01:JOCKVA        225.13   10.636 No_date   28:10   26.85 .590     .000
          [XIMP=.50:TIMP=.50]
          [LOSS= 2 :CN= 74.0]
          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
          [IaRECimp=   4.00: IaRECper=   4.00]
          [SMIN= 36.67: SMAX=244.49: SK= .010]
 R0002:C00431------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:EX-LAND-MN   32.50    2.093 No_date   28:02   26.85  n/a     .000
                      +       1.0 02:JOCKVA      225.13   10.636 No_date   28:10   26.85  n/a     .000
                      +       1.0 02:B2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                      +       1.0 02:B3-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=        1.0 01:JOCKVA-TO   257.63   12.234 No_date   28:07   26.85  n/a     .000
 R0002:C00432------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                1.0 01:JOCKVA-TO   257.63   12.234 No_date   28:07   26.85  n/a     .000
          fname :JOCKVA-TO.0002
          remark:Total Flows at KB first pond
 #***************************************************************************
 #    Jockvale SWM Facility
 #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
 #***************************************************************************
 R0002:C00433------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->      1.0 02:JOCKVA-TO   257.63   12.234 No_date   28:07   26.85  n/a     .000
                   out <=     1.0 01:JOCK_P      257.63    2.560 No_date   29:05   26.85  n/a     .000
              overflow <=     1.0 03:JO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
         {MxStoUsed=.3334E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0002:C00434------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:N_DE      55194.85   49.260 No_date   39:17   13.21  n/a     .000
                      +       1.0 02:DESIRE       23.78     .936 No_date   28:03   19.26  n/a     .000
                      +       1.0 02:JO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
                      +       1.0 02:JOCK_P      257.63    2.560 No_date   29:05   26.85  n/a     .000
                  SUM=        1.0 01:SN_DE     55476.26   49.606 No_date   39:13   13.27  n/a     .000
 R0002:C00435------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                1.0 01:SN_DE     55476.26   49.606 No_date   39:13   13.27  n/a     .000
          fname :SN_DE.0002
          remark:Total Flows at Heart's Desire
 #
 # Hydrograph from Heart's Desire routed to Rideau River
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
 #
 R0002:C00436------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->      1.0 02:SN_DE     55476.26   49.606 No_date   39:13   13.27  n/a     .000
       [RDT= 1.00] out<-      1.0 01:NI        55476.26   49.604 No_date   39:19   13.27  n/a     .000
          [L/S/n=  563./ .967/.045]
          {Vmax= 1.490:Dmax=  .801}
 #***************************************************************************
 #    Catchment S-2
 #    - To Jock River (north and south)
 #    - Undeveloped floodplain and river
 #***************************************************************************
 R0002:C00437------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD       1.0 01:S-2         102.94    1.373 No_date   28:20   13.01 .286     .000
          [CN= 72.0: N= 3.00: Tp=  .40]
          [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
          [InterEventTime=  12.00]
 R0002:C00438------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                 1.0 02:NI        55476.26   49.604 No_date   39:19   13.27  n/a     .000
                      +       1.0 02:S-2         102.94    1.373 No_date   28:20   13.01  n/a     .000
                  SUM=        1.0 01:SN_NI     55579.20   49.703 No_date   39:19   13.27  n/a     .000
 R0002:C00439------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD                1.0 01:SN_NI     55579.20   49.703 No_date   39:19   13.27  n/a     .000
          fname :SN_NI.0002
          remark:Total Flows at Rideau River
 ###########################################################################
   ** END OF RUN :    4

 *****************************************************************************************





  RUN#:COMMAND#
 R0005:C00001------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2   (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0005 ]
 #***************************************************************************
 #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
 #***************************************************************************
 #  Project Name: [Jock River]    Project Number: [1474-16]
 #  Date         : 04-03-2021
 #  Modeller     : [M M]
 #  Company      : JFSAinc.
 #  License #    :  2549237
 #***************************************************************************
 # CALIBRATION OF SUMMER MODEL PARAMETERS
 # USING CONTINUOUS SIMULATIONS
 # Rainfall data from JFSA raingauge installed at site + other gauges by the City
 # Use data collected from May 1st to July 14, 2003
 # 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
 # 2020-12-01 correct pond curve values
 # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
 # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
 # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
 # ---------------------------------------------------------------------------
 R0005:C00002------------------------------------------------------------------------------
      READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
 R0005:C00003------------------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
 R0005:C00004------------------------------------------------------------------------------
      DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   4.67 mm] [N= 3.00]
       Average monthly Pan Evaporation data in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
 R0005:C00005------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
       {APImax= 90.83: APIavg= 60.09: APImin= 44.87}
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.32
 R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD       1.0 01:JR_HW      3680.00    9.398 No_date   37:02   16.41 .287     .000
       [CN= 64.0: N= 3.00: Tp= 7.13]
       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
       [InterEventTime=  12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.32
 R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD       1.0 01:SW_13       971.00    3.405 No_date   32:36   15.29 .268     .000
       [CN= 61.0: N= 3.00: Tp= 3.76]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.80
 R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD       1.0 01:JR_GWM     3074.00    4.682 No_date   39:59   13.23 .232     .000
       [CN= 55.0: N= 3.00: Tp=11.33]
       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
       [InterEventTime=  12.00]
 R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD       1.0 01:JR_ASH     1781.00    8.521 No_date   32:43   20.12 .352     .000
       [CN= 72.0: N= 3.00: Tp= 3.91]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
 R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD       1.0 01:SW_11       500.00    4.354 No_date   29:22   17.18 .301     .000
       [CN= 66.0: N= 3.00: Tp= 1.24]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
 #
 # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
 # of 1.80
 R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD       1.0 01:NN_CK      1917.00    6.210 No_date   34:31   17.18 .301     .000
       [CN= 66.0: N= 3.00: Tp= 5.29]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
 #
```

```
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_10        5666.00   16.924 No_date    38:02   20.12 .352      .000
       [CN= 72.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:KG_CK        8376.00   16.342 No_date    39:59   17.18 .301      .000
       [CN= 66.0: N= 3.00: Tp=11.66]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_9         1132.00    6.963 No_date    30:55   19.24 .337      .000
       [CN= 70.0: N= 3.00: Tp= 2.51]
       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:NC_CK        4464.00    8.109 No_date    39:59   15.66 .274      .000
       [CN= 62.0: N= 3.00: Tp=11.32]
       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_8          131.00    1.298 No_date    28:57   16.03 .281      .000
       [CN= 63.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:HB_DR        3854.00    9.385 No_date    38:41   17.18 .301      .000
       [CN= 66.0: N= 3.00: Tp= 8.42]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_7         3197.00    7.027 No_date    36:28   13.89 .243      .000
       [CN= 57.0: N= 3.00: Tp= 6.65]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_6          165.00     .641 No_date    33:06   17.58 .308      .000
       [CN= 67.0: N= 3.00: Tp= 4.18]
       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:VG_DR        1332.00    4.803 No_date    35:19   20.12 .352      .000
       [CN= 72.0: N= 3.00: Tp= 5.95]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_5          224.00    4.100 No_date    28:45   22.97 .402      .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:FL_CK        4945.00   22.837 No_date    33:22   21.04 .368      .000
       [CN= 74.0: N= 3.00: Tp= 4.45]
       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
       [InterEventTime=  12.00]
R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_5A2         20.00     .483 No_date    28:36   25.62 .448      .000
       [CN= 81.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_5A1       1412.00    4.646 No_date    37:58   21.98 .385      .000
       [CN= 75.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
       [InterEventTime=  12.00]
R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_4          585.00    6.688 No_date    29:57   25.62 .448      .000
       [CN= 81.0: N= 3.00: Tp= 1.75]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:LM_CK        1021.00    8.861 No_date    30:48   25.07 .439      .000
       [CN= 80.0: N= 3.00: Tp= 2.46]
       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
       [InterEventTime=  12.00]
R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_2          177.00    3.240 No_date    28:45   22.97 .402      .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SM_DR        1122.00    8.165 No_date    31:48   25.62 .448      .000
       [CN= 81.0: N= 3.00: Tp= 3.25]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:MO_DR        2737.00   17.859 No_date    31:33   22.47 .393      .000
       [CN= 76.0: N= 3.00: Tp= 3.03]
       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:JR_HW        3680.00    9.398 No_date    37:02   16.41  n/a      .000
                      +     1.0 02:SW_13         971.00    3.405 No_date    32:36   15.29  n/a      .000
                   SUM=     1.0 01:S_N13        4651.00   11.949 No_date    35:33   16.17  n/a      .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N13        4651.00   11.949 No_date    35:33   16.17  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N13A         4651.00    9.514 No_date    39:57   16.17  n/a      .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .478:Dmax= 3.020}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N13A         4651.00    9.514 No_date    39:57   16.17  n/a      .000
                      +     1.0 02:JR_GWM       3074.00    4.682 No_date    39:59   13.23  n/a      .000
                   SUM=     1.0 01:SN13A        7725.00   14.196 No_date    39:59   15.00  n/a      .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:SN13A        7725.00   14.196 No_date    39:59   15.00  n/a      .000
                 out <=     1.0 01:RES_GM       7725.00    3.149 No_date    57:25   15.00  n/a      .000
      {MkStoUsed=.6321E+02  m3}
#
R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:RES_GM       7725.00    3.149 No_date    57:25   15.00  n/a      .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:RES_GM       7725.00    3.149 No_date    57:25   15.00  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N12          7725.00    3.137 No_date    60:12   15.00  n/a      .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .527:Dmax= 1.429}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N12          7725.00    3.137 No_date    60:12   15.00  n/a      .000
                      +     1.0 02:JR_ASH       1781.00    8.521 No_date    32:43   20.12  n/a      .000
                   SUM=     1.0 01:S_N12        9506.00   10.498 No_date    32:46   15.96  n/a      .000
R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N12        9506.00   10.498 No_date    32:46   15.96  n/a      .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N12        9506.00   10.498 No_date    32:46   15.96  n/a      .000
      [RDT= 1.00] out<-     1.0 01:Dum11        9506.00   10.383 No_date    33:07   15.96  n/a      .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .648:Dmax= 2.406}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:Dum11        9506.00   10.383 No_date    33:07   15.96  n/a      .000
                      +     1.0 02:SW_11         500.00    4.354 No_date    29:22   17.18  n/a      .000
                      +     1.0 02:NN_CK        1917.00    6.210 No_date    34:31   17.18  n/a      .000
                   SUM=     1.0 01:S_N11       11923.00   17.560 No_date    33:09   16.21  n/a      .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N11       11923.00   17.560 No_date    33:09   16.21  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N10         11923.00   12.006 No_date    38:17   16.21  n/a      .000
       [L/S/n=14028./ .157/.040]
       {Vmax=  .461:Dmax= 1.087}
#
# Addition of Subwatershed 10 to Node 10
#
R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N10         11923.00   12.006 No_date    38:17   16.21  n/a      .000
                      +     1.0 02:SW_10        5666.00   16.924 No_date    38:02   20.12  n/a      .000
                   SUM=     1.0 01:S_N10       17589.00   28.927 No_date    38:09   17.47  n/a      .000
R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N10       17589.00   28.927 No_date    38:09   17.47  n/a      .000
       fname :H_SN10
       remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S_N10       17589.00   28.927 No_date    38:09   17.47  n/a      .000
                      +     1.0 02:KG_CK        8376.00   16.342 No_date    39:59   17.18  n/a      .000
                   SUM=     1.0 01:S_N10A      25965.00   44.722 No_date    39:35   17.37  n/a      .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N10A      25965.00   44.722 No_date    39:35   17.37  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N9          25965.00   43.534 No_date    39:59   17.37  n/a      .000
       [L/S/n= 3982./ .075/.040]
       {Vmax=  .664:Dmax= 1.502}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N9          25965.00   43.534 No_date    39:59   17.37  n/a      .000
                      +     1.0 02:SW_9         1132.00    6.963 No_date    30:55   19.24  n/a      .000
                      +     1.0 02:NC_CK        4464.00    8.109 No_date    39:59   15.66  n/a      .000
                   SUM=     1.0 01:S_N9        31561.00   53.366 No_date    39:59   17.20  n/a      .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N9        31561.00   53.366 No_date    39:59   17.20  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N8          31561.00   49.404 No_date    39:59   17.20  n/a      .000
       [L/S/n= 2269./ .088/.045]
       {Vmax=  .370:Dmax= 1.520}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N8          31561.00   49.404 No_date    39:59   17.20  n/a      .000
                      +     1.0 02:SW_8          131.00    1.298 No_date    28:57   16.03  n/a      .000
                      +     1.0 02:HB_DR        3854.00    9.385 No_date    38:41   17.18  n/a      .000
                   SUM=     1.0 01:S_N8        35546.00   58.845 No_date    39:59   17.19  n/a      .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N8        35546.00   58.845 No_date    39:59   17.19  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N7          35546.00   48.127 No_date    45:08   17.19  n/a      .000
       [L/S/n= 3750./ .053/.070]
       {Vmax=  .208:Dmax= 1.855}
#
# Addition of Subwatershed 7 to Node 7
#
R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N7          35546.00   48.127 No_date    45:08   17.19  n/a      .000
                      +     1.0 02:SW_7         3197.00    7.027 No_date    36:28   13.89  n/a      .000
                   SUM=     1.0 01:S_N7        38743.00   51.395 No_date    44:14   16.92  n/a      .000
R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N7        38743.00   51.395 No_date    44:14   16.92  n/a      .000
       fname :H_SN7
       remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S_N7        38743.00   51.395 No_date    44:14   16.92  n/a      .000
                 out <=     1.0 01:RES_RF      38743.00   27.976 No_date    59:12   16.92  n/a      .000
      {MkStoUsed=.1784E+03  m3}
R0005:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:RES_RF      38743.00   27.976 No_date    59:12   16.92  n/a      .000
       fname :H_ResRF
       remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0005:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:RES_RF      38743.00   27.976 No_date    59:12   16.92  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N6          38743.00   27.930 No_date    60:29   16.92  n/a      .000
       [L/S/n= 3056./ .082/.025]
       {Vmax=  .460:Dmax=  .895}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0005:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N6          38743.00   27.930 No_date    60:29   16.92  n/a      .000
                      +     1.0 02:SW_6          165.00     .641 No_date    33:06   17.58  n/a      .000
                      +     1.0 02:VG_DR        1332.00    4.803 No_date    35:19   20.12  n/a      .000
                   SUM=     1.0 01:S_N6        40240.01   27.944 No_date    60:06   17.03  n/a      .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0005:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N6        40240.01   27.944 No_date    60:06   17.03  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N5          40240.01   27.922 No_date    60:57   17.03  n/a      .000
       [L/S/n= 1852./ .054/.035]
       {Vmax=  .397:Dmax= 1.002}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0005:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N5          40240.01   27.922 No_date    60:57   17.03  n/a      .000
                      +     1.0 02:SW_5          224.00    4.100 No_date    28:45   22.97  n/a      .000
                      +     1.0 02:FL_CK        4945.00   22.837 No_date    33:22   21.04  n/a      .000
                   SUM=     1.0 01:S_N5        45409.01   43.566 No_date    35:28   17.49  n/a      .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0005:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N5        45409.01   43.566 No_date    35:28   17.49  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N5A         45409.01   43.490 No_date    35:47   17.49  n/a      .000
       [L/S/n=  556./ .090/.040]
       {Vmax=  .465:Dmax= 1.060}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0005:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N5A         45409.01   43.490 No_date    35:47   17.49  n/a      .000
                      +     1.0 02:SW_5A2         20.00     .483 No_date    28:36   25.62  n/a      .000
                      +     1.0 02:SW_5A1       1412.00    4.646 No_date    37:58   21.98  n/a      .000
                   SUM=     1.0 01:S_N5A       46841.01   47.976 No_date    35:58   17.63  n/a      .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0005:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N5A       46841.01   47.976 No_date    35:58   17.63  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N4          46841.01   46.217 No_date    37:26   17.63  n/a      .000
       [L/S/n= 4630./ .043/.035]
       {Vmax=  .756:Dmax= 3.116}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0005:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N4          46841.01   46.217 No_date    37:26   17.63  n/a      .000
                      +     1.0 02:SW_4          585.00    6.688 No_date    29:57   25.62  n/a      .000
                      +     1.0 02:LM_CK        1021.00    8.861 No_date    30:48   25.07  n/a      .000
                   SUM=     1.0 01:S_N4        48447.00   50.308 No_date    36:47   17.89  n/a      .000
R0005:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N4        48447.00   50.308 No_date    36:47   17.89  n/a      .000
       fname :S_N4.0005
       remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0005:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N4        48447.00   50.308 No_date    36:47   17.89  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N2          48447.00   50.131 No_date    37:08   17.89  n/a      .000
       [L/S/n= 1667./ .060/.040]
```

```
        {Vmax=  .781:Dmax= 3.131}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0005:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N2          48447.00   50.131 No_date   37:08   17.89  n/a     .000
                     +      1.0 02:SW_2          177.00    3.240 No_date   28:45   22.97  n/a     .000
                     +      1.0 02:SM_DR        1122.00    8.165 No_date   31:48   25.62  n/a     .000
                     +      1.0 02:MO_DR        2737.00   17.859 No_date   31:33   22.47  n/a     .000
                  SUM=      1.0 01:S_N2        52483.00   67.222 No_date   33:17   18.31  n/a     .000
R0005:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N2        52483.00   67.222 No_date   33:17   18.31  n/a     .000
        fname :H_SN2
        remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#*****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0005:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N2        52483.00   67.222 No_date   33:17   18.31  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_416       52483.00   65.664 No_date   34:34   18.31  n/a     .000
        [L/S/n= 2327./ .050/.055]
        {Vmax=  .658:Dmax= 2.660}
#*****************************************************************************
#     Catchment SW-1a
#     - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#     - Undeveloped agricultural land
#*****************************************************************************
R0005:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_1a         536.42    3.012 No_date   31:18   19.00 .333     .000
        [CN= 72.0: N= 3.00: Tp= 2.79]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0005:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-Okeefe     44.93    4.591 No_date   28:03   42.00 .735     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-Okeefe     44.93    4.591 No_date   28:03   42.00  n/a     .000
      Major System  /       1.0 02:S-1-OkMJ         .00     .000 No_date    0:00     .00  n/a     .000
      Minor System  \       1.0 03:S-1-OkMN       44.93    4.591 No_date   28:03   42.00  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-OkMJ         .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:S-1-OkMN       44.93    4.591 No_date   28:03   42.00  n/a     .000
                  SUM=      1.0 01:S-1-OkS        44.93    4.591 No_date   28:03   42.00  n/a     .000
R0005:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-OkS        44.93    4.591 No_date   28:03   42.00  n/a     .000
                 out <=     1.0 01:S-1-OkSR       44.93     .340 No_date   29:30   42.00  n/a     .000
            overflow <=     1.0 03:S-1-OkSovf       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1133E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_416       52483.00   65.664 No_date   34:34   18.31  n/a     .000
                     +      1.0 02:SW_1a         536.42    3.012 No_date   31:18   19.00  n/a     .000
                     +      1.0 02:S-1-OkSR       44.93     .340 No_date   29:30   42.00  n/a     .000
                     +      1.0 02:S-1-OkSovf       .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:SN_416      53064.36   68.103 No_date   34:06   18.33  n/a     .000
R0005:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_416      53064.36   68.103 No_date   34:06   18.33  n/a     .000
        fname :SN_416.0005
        remark:Total Flows at Highway 416 before Station 7245
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0005:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_416      53064.36   68.103 No_date   34:06   18.33  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_OK        53064.36   68.074 No_date   34:06   18.33  n/a     .000
        [L/S/n=  497./ .302/.055]
        {Vmax= 1.357:Dmax= 2.255}
#*****************************************************************************
#     Catchment OKEEFE
#     - To O'Keefe drain (north of the Jock)
#     - Developed with assumed 43% imp.
#     - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#     - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#*****************************************************************************
R0005:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-1            63.72     .514 No_date   28:59   13.88 .243     .000
        [CN= 61.0: N= 3.00: Tp=  .90]
        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
        [InterEventTime=  12.00]
R0005:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:O-1            63.72     .514 No_date   28:59   13.88  n/a     .000
      [RDT= 1.00] out<-     1.0 01:O-1R           63.72     .470 No_date   29:19   13.88  n/a     .000
        [L/S/n=  960./ .630/.043]
        {Vmax=  .682:Dmax=  .283}
R0005:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-2            28.61     .183 No_date   29:14   12.96 .227     .000
        [CN= 57.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
        [InterEventTime=  12.00]
R0005:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-4            46.94     .222 No_date   29:01    9.87 .173     .000
        [CN= 49.0: N= 3.00: Tp=  .90]
        [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
        [InterEventTime=  12.00]
R0005:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:O-1R           63.72     .470 No_date   29:19   13.88  n/a     .000
                     +      1.0 02:O-2            28.61     .183 No_date   29:14   12.96  n/a     .000
                     +      1.0 02:O-4            46.94     .222 No_date   29:01    9.87  n/a     .000
                  SUM=      1.0 01:OKF-N         139.27     .867 No_date   29:14   12.34  n/a     .000
R0005:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:OKF-N         139.27     .867 No_date   29:14   12.34  n/a     .000
      [RDT= 1.00] out<-     1.0 01:OKF-NR        139.27     .866 No_date   29:17   12.34  n/a     .000
        [L/S/n=  210./ .810/.043]
        {Vmax=  .853:Dmax=  .550}
R0005:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-6            16.46     .074 No_date   28:46    8.71 .152     .000
        [CN= 43.0: N= 3.00: Tp=  .70]
        [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
        [InterEventTime=  12.00]
R0005:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:O-3            39.67     .605 No_date   28:25   15.80 .277     .000
        [XIMP=.15:TIMP=.30]
        [LOSS= 2 :CN= 50.0]
        [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 99.77: SMAX=665.12: SK= .010]
R0005:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:O-5            60.63    1.453 No_date   28:11   17.75 .311     .000
        [XIMP=.13:TIMP=.26]
        [LOSS= 2 :CN= 61.0]
        [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 64.50: SMAX=430.01: SK= .010]
R0005:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:OKF-NR        139.27     .866 No_date   29:17   12.34  n/a     .000
                     +      1.0 02:O-3            39.67     .605 No_date   28:25   15.80  n/a     .000
                     +      1.0 02:O-5            60.63    1.453 No_date   28:11   17.75  n/a     .000
                     +      1.0 02:O-6            16.46     .074 No_date   28:46    8.71  n/a     .000
                  SUM=      1.0 01:PT1           256.03    2.312 No_date   28:24   13.92  n/a     .000
R0005:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-7             5.28     .041 No_date   28:37   11.36 .199     .000
        [CN= 54.0: N= 3.00: Tp=  .60]
        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
        [InterEventTime=  12.00]
R0005:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:PT1           256.03    2.312 No_date   28:24   13.92  n/a     .000
                     +      1.0 02:O-7             5.28     .041 No_date   28:37   11.36  n/a     .000
                  SUM=      1.0 01:FF            261.31    2.351 No_date   28:25   13.87  n/a     .000
R0005:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:FF            261.31    2.351 No_date   28:25   13.87  n/a     .000
      [RDT= 1.00] out<-     1.0 01:DRAIN1        261.31    2.298 No_date   28:31   13.87  n/a     .000
        [L/S/n=  302./1.000/.043]
        {Vmax=  .817:Dmax=  .624}
R0005:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D1              1.17     .044 No_date   28:12   23.49 .411     .000
        [CN= 84.0: N= 3.00: Tp=  .28]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime=  12.00]
R0005:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A1              2.50     .337 No_date   28:01   44.03 .771     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A1              2.50     .337 No_date   28:01   44.03  n/a     .000
                 out <=     1.0 01:A1-STR          2.50     .076 No_date   28:28   44.03  n/a     .000
            overflow <=     1.0 03:A1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5227E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-2             .59     .062 No_date   28:00   33.25 .582     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-2             .59     .062 No_date   28:00   33.25  n/a     .000
                 out <=     1.0 01:ST2STR           .59     .052 No_date   28:03   33.25  n/a     .000
            overflow <=     1.0 03:ST2OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1200E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-8            60.55     .658 No_date   29:05   18.08 .317     .000
        [CN= 69.0: N= 3.00: Tp= 1.00]
        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
        [InterEventTime=  12.00]
R0005:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:O-8            60.55     .658 No_date   29:05   18.08  n/a     .000
      [RDT= 1.00] out<-     1.0 01:O8PIPE         60.55     .654 No_date   29:09   18.08  n/a     .000
        [L/S/n=  335./ .100/.013]
        {Vmax=  .991:Dmax=  .368}
        {HGTH= 1.20:WDTH= 1.80}
R0005:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN1        261.31    2.298 No_date   28:31   13.87  n/a     .000
                     +      1.0 02:D1              1.17     .044 No_date   28:12   23.49  n/a     .000
                     +      1.0 02:A1-STR          2.50     .076 No_date   28:28   44.03  n/a     .000
                     +      1.0 02:A1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:ST2STR           .59     .052 No_date   28:03   33.25  n/a     .000
                     +      1.0 02:ST2OVF           .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:O8PIPE         60.55     .654 No_date   29:09   18.08  n/a     .000
                  SUM=      1.0 01:ST2-IN        326.12    2.907 No_date   28:39   14.95  n/a     .000
R0005:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A7              3.51     .460 No_date   28:02   44.03 .771     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A7              3.51     .460 No_date   28:02   44.03  n/a     .000
                 out <=     1.0 01:A7-STR          3.51     .108 No_date   28:29   44.03  n/a     .000
            overflow <=     1.0 03:A7-OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7349E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-3             .71     .073 No_date   28:00   33.25 .582     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-3             .71     .073 No_date   28:00   33.25  n/a     .000
                 out <=     1.0 01:ST3STR           .71     .063 No_date   28:03   33.25  n/a     .000
            overflow <=     1.0 03:ST3OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1203E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:ST2-IN        326.12    2.907 No_date   28:39   14.95  n/a     .000
                     +      1.0 02:A7-STR          3.51     .108 No_date   28:29   44.03  n/a     .000
                     +      1.0 02:A7-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:ST3STR           .71     .063 No_date   28:03   33.25  n/a     .000
                     +      1.0 02:ST3OVF           .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:PT2ST3        330.34    3.026 No_date   28:38   15.30  n/a     .000
R0005:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:PT2ST3        330.34    3.026 No_date   28:38   15.30  n/a     .000
      [RDT= 1.00] out<-     1.0 01:DRAIN2        330.34    2.842 No_date   29:04   15.30  n/a     .000
        [L/S/n=  592./ .230/.043]
        {Vmax=  .607:Dmax=  .930}
R0005:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D2              2.28     .035 No_date   29:05   23.49 .411     .000
        [CN= 84.0: N= 3.00: Tp=  .99]
        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
        [InterEventTime=  12.00]
R0005:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A17            12.04    1.379 No_date   28:04   44.03 .771     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A17            12.04    1.379 No_date   28:04   44.03  n/a     .000
                 out <=     1.0 01:A17STR         12.04     .353 No_date   28:36   44.03  n/a     .000
            overflow <=     1.0 03:A17OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2492E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-4             .35     .038 No_date   28:00   33.25 .582     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-4             .35     .038 No_date   28:00   33.25  n/a     .000
                 out <=     1.0 01:ST4STR           .35     .031 No_date   28:03   33.25  n/a     .000
            overflow <=     1.0 03:ST4OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1040E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A18             5.30     .671 No_date   28:02   44.03 .771     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A18             5.30     .671 No_date   28:02   44.03  n/a     .000
                 out <=     1.0 01:A18STR          5.30     .160 No_date   28:31   44.03  n/a     .000
            overflow <=     1.0 03:A18OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1108E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN2        330.34    2.842 No_date   29:04   15.30  n/a     .000
                     +      1.0 02:D2              2.28     .035 No_date   29:05   23.49  n/a     .000
                     +      1.0 02:A17STR         12.04     .353 No_date   28:36   44.03  n/a     .000
                     +      1.0 02:A17OVF           .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:ST4STR           .35     .031 No_date   28:03   33.25  n/a     .000
                     +      1.0 02:ST4OVF           .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:A18STR          5.30     .160 No_date   28:31   44.03  n/a     .000
                     +      1.0 02:A18OVF           .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:PT3ST4        350.31    3.317 No_date   28:57   16.79  n/a     .000
R0005:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:PT3ST4        350.31    3.317 No_date   28:57   16.79  n/a     .000
      [RDT= 1.00] out<-     1.0 01:DRAIN3        350.31    3.191 No_date   29:19   16.79  n/a     .000
        [L/S/n=  525./ .230/.043]
        {Vmax=  .635:Dmax=  .979}
R0005:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D3              2.51     .055 No_date   28:45   25.92 .454     .000
        [CN= 86.0: N= 3.00: Tp=  .73]
        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
        [InterEventTime=  12.00]
R0005:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:C1              3.41     .450 No_date   28:01   44.03 .771     .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:C1              3.41     .450 No_date   28:01   44.03  n/a     .000
                 out <=     1.0 01:C1-STR          3.41     .104 No_date   28:29   44.03  n/a     .000
            overflow <=     1.0 03:C1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7123E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-5             .45     .048 No_date   28:00   33.25 .582     .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:ST-5             .45     .048 No_date   28:00   33.25  n/a     .000
                 out <=     1.0 01:ST5STR           .45     .040 No_date   28:03   33.25  n/a     .000
            overflow <=     1.0 03:ST5OVF           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1108E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:DRAIN3        350.31    3.191 No_date   29:19   16.79  n/a     .000
                     +      1.0 02:D3              2.51     .055 No_date   28:45   25.92  n/a     .000
                     +      1.0 02:C1-STR          3.41     .104 No_date   28:29   44.03  n/a     .000
                     +      1.0 02:C1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                     +      1.0 02:ST5STR           .45     .040 No_date   28:03   33.25  n/a     .000
                     +      1.0 02:ST5OVF           .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:ST5-E         356.68    3.312 No_date   29:13   17.14  n/a     .000
R0005:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:STRAND          7.59     .640 No_date   28:12   42.86 .750     .000
        [XIMP=.64:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:STRAND          7.59     .640 No_date   28:12   42.86  n/a     .000
                 out <=     1.0 01:S-POND          7.59     .048 No_date   29:55   42.86  n/a     .000
            overflow <=     1.0 03:S-OVF            .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2288E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:ST5-E         356.68    3.312 No_date   29:13   17.14  n/a     .000
                     +      1.0 02:S-POND          7.59     .048 No_date   29:55   42.86  n/a     .000
                     +      1.0 02:S-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=      1.0 01:SSAOUT        364.27    3.358 No_date   29:13   17.68  n/a     .000
R0005:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SSAOUT        364.27    3.358 No_date   29:13   17.68  n/a     .000
        fname :SSAOUT.0005
        remark:SSAOUT
R0005:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Area-A         66.75    5.433 No_date   28:11   42.06 .736     .000
        [XIMP=.64:TIMP=.80]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:Area-A         66.75    5.433 No_date   28:11   42.06  n/a     .000
        fname :Area-A.0005
        remark:SWMF-A Inflow
R0005:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Area-A         66.75    5.433 No_date   28:11   42.06  n/a     .000
                 out <=     1.0 01:SWMF-A         66.75     .298 No_date   30:20   42.06  n/a     .000
            overflow <=     1.0 03:SWMAOV           .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2106E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0005:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SWMF-A         66.75     .298 No_date   30:20   42.06  n/a     .000
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       fname :SWMF-A.0005
       remark:SWMF-A Outflow
R0005:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:SSAOUT       364.27    3.358 No_date   29:13   17.68  n/a     .000
                      +     1.0 02:SWMF-A        66.75     .298 No_date   30:20   42.06  n/a     .000
                      +     1.0 02:SWMAOV          .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:PT4ST5       431.02    3.613 No_date   29:19   21.45  n/a     .000
R0005:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:C6             1.87     .260 No_date   28:01   44.03 .771     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:C6             1.87     .260 No_date   28:01   44.03  n/a     .000
                 out <=     1.0 01:C6-STR         1.87     .058 No_date   28:26   44.03  n/a     .000
            overflow <=     1.0 03:C6-OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3924E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:C7             1.62     .227 No_date   28:01   44.03 .771     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:C7             1.62     .227 No_date   28:01   44.03  n/a     .000
                 out <=     1.0 01:C7-STR         1.62     .050 No_date   28:26   44.03  n/a     .000
            overflow <=     1.0 03:C7-OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3391E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:ST-6            .41     .044 No_date   28:00   33.25 .582     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:ST-6            .41     .044 No_date   28:00   33.25  n/a     .000
                 out <=     1.0 01:ST6STR          .41     .036 No_date   28:03   33.25  n/a     .000
            overflow <=     1.0 03:ST6OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:PT4ST5       431.02    3.613 No_date   29:19   21.45  n/a     .000
                      +     1.0 02:C6-STR         1.87     .058 No_date   28:26   44.03  n/a     .000
                      +     1.0 02:C6-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:C7-STR         1.62     .050 No_date   28:26   44.03  n/a     .000
                      +     1.0 02:C7-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:ST6STR          .41     .036 No_date   28:03   33.25  n/a     .000
                      +     1.0 02:ST6OVF          .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:PT5ST6       434.92    3.684 No_date   29:13   21.64  n/a     .000
R0005:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:PT5ST6       434.92    3.684 No_date   29:13   21.64  n/a     .000
     [RDT= 1.00] out<-      1.0 01:DRAIN4       434.92    3.572 No_date   29:35   21.64  n/a     .000
       [L/S/n=  324./ .100/.043]
       {Vmax=  .480:Dmax= 1.218}
R0005:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:D4             1.73     .049 No_date   28:35   27.98 .490     .000
       [CN= 88.0: N= 3.00: Tp=  .60]
       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
       [InterEventTime=  12.00]
R0005:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:Area-B        24.04    2.784 No_date   28:04   40.98 .717     .000
       [XIMP=.62:TIMP=.77]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:Area-B        24.04    2.784 No_date   28:04   40.98  n/a     .000
                 out <=     1.0 01:SWMF-B        24.04     .278 No_date   28:55   40.98  n/a     .000
            overflow <=     1.0 03:SWMBOVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.6277E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:DRAIN4       434.92    3.572 No_date   29:35   21.64  n/a     .000
                      +     1.0 02:D4             1.73     .049 No_date   28:35   27.98  n/a     .000
                      +     1.0 02:SWMF-B        24.04     .278 No_date   28:55   40.98  n/a     .000
                      +     1.0 02:SWMBOVF         .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:D4-EX        460.69    3.861 No_date   29:25   22.68  n/a     .000
R0005:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:D4-EX        460.69    3.861 No_date   29:25   22.68  n/a     .000
     [RDT= 1.00] out<-      1.0 01:DRAIN5       460.69    3.810 No_date   29:44   22.68  n/a     .000
       [L/S/n=  413./ .160/.033]
       {Vmax=  .561:Dmax=  .821}
R0005:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:D5             1.90     .044 No_date   28:42   25.92 .454     .000
       [CN= 86.0: N= 3.00: Tp=  .69]
       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
       [InterEventTime=  12.00]
R0005:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-13SDF        9.74     .290 No_date   28:22   24.64 .431     .000
       [CN= 81.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0005:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:O-13SDF        9.74     .290 No_date   28:22   24.64  n/a     .000
                 out <=     1.0 01:SDF            9.74     .032 No_date   32:11   24.64  n/a     .000
            overflow <=     1.0 03:OVFSDF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1268E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:DRAIN5       460.69    3.810 No_date   29:44   22.68  n/a     .000
                      +     1.0 02:D5             1.90     .044 No_date   28:42   25.92  n/a     .000
                      +     1.0 02:SDF            9.74     .032 No_date   32:11   24.64  n/a     .000
                   SUM=     1.0 01:PT6MC        472.33    3.863 No_date   29:44   22.73  n/a     .000
R0005:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-15          10.67     .385 No_date   28:13   23.43 .410     .000
       [CN= 82.0: N= 3.00: Tp=  .30]
       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
       [InterEventTime=  12.00]
R0005:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:PT6MC        472.33    3.863 No_date   29:44   22.73  n/a     .000
                      +     1.0 02:O-15          10.67     .385 No_date   28:13   23.43  n/a     .000
                   SUM=     1.0 01:M-C          483.00    3.921 No_date   29:44   22.75  n/a     .000
R0005:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:M-C          483.00    3.921 No_date   29:44   22.75  n/a     .000
     [RDT= 1.00] out<-      1.0 01:O-14Ch       483.00    3.787 No_date   30:06   22.75  n/a     .000
       [L/S/n=  845./ .100/.033]
       {Vmax=  .748:Dmax= 1.430}
R0005:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-14           5.00     .300 No_date   28:04   23.43 .410     .000
       [CN= 82.0: N= 3.00: Tp=  .13]
       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
       [InterEventTime=  12.00]
R0005:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:O-14Ch       483.00    3.787 No_date   30:06   22.75  n/a     .000
                      +     1.0 02:O-14           5.00     .300 No_date   28:04   23.43  n/a     .000
                   SUM=     1.0 01:OKEEFE       488.00    3.807 No_date   30:06   22.75  n/a     .000
#**************************************************************************
#   Okeefe Pond
#   - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#     and a ratio of the catchment area to the West Clarke pond rating curve
#     from the MSS for the next coordinates
#**************************************************************************
R0005:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:S-1-D2        18.67    2.097 No_date   28:02   42.00 .735     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:S-1-D2        18.67    2.097 No_date   28:02   42.00  n/a     .000
     Major System   /       1.0 02:S-1-D2J         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:S-1-D2N       18.67    2.097 No_date   28:02   42.01  n/a     .000
       {MjSysSto=.1144E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S-1-D2J         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:S-1-D2N       18.67    2.097 No_date   28:02   42.01  n/a     .000
                   SUM=     1.0 01:S-1-D2S       18.67    2.097 No_date   28:02   42.01  n/a     .000
R0005:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S-1-D2S       18.67    2.097 No_date   28:02   42.01  n/a     .000
                 out <=     1.0 01:S-1-D2R       18.67     .141 No_date   29:24   42.01  n/a     .000
            overflow <=     1.0 03:S-1-D2Rovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.4714E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:S-1-D3         6.79     .831 No_date   28:01   42.00 .735     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:S-1-D3         6.79     .831 No_date   28:01   42.00  n/a     .000
     Major System   /       1.0 02:S-1-D3J         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:S-1-D3N        6.79     .831 No_date   28:01   42.00  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S-1-D3J         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:S-1-D3N        6.79     .831 No_date   28:01   42.00  n/a     .000
                   SUM=     1.0 01:S-1-D3S        6.79     .831 No_date   28:01   42.00  n/a     .000
R0005:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S-1-D3S        6.79     .831 No_date   28:01   42.00  n/a     .000
                 out <=     1.0 01:S-1-D3R        6.79     .051 No_date   29:18   42.00  n/a     .000
            overflow <=     1.0 03:S-1-D3Rovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1715E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N_OK       53064.36   68.074 No_date   34:06   18.33  n/a     .000
                      +     1.0 02:OKEEFE       488.00    3.807 No_date   30:06   22.75  n/a     .000
                      +     1.0 02:S-1-D2R       18.67     .141 No_date   29:24   42.01  n/a     .000
                      +     1.0 02:S-1-D3R        6.79     .051 No_date   29:18   42.00  n/a     .000
                      +     1.0 02:S-1-D2Rovf      .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:S-1-D3Rovf      .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:SN_OK      53577.82   69.530 No_date   34:06   18.39  n/a     .000
R0005:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:SN_OK      53577.82   69.530 No_date   34:06   18.39  n/a     .000
       fname :SN_OK.0005
       remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0005:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:SN_OK      53577.82   69.530 No_date   34:06   18.39  n/a     .000
     [RDT= 1.00] out<-      1.0 01:N_FO       53577.82   69.319 No_date   34:07   18.39  n/a     .000
       [L/S/n= 1183./ .076/.035]
       {Vmax= 1.032:Dmax= 2.625}
#**************************************************************************
#   Catchment FOSTER
#   - To Foster ditch (north of the Jock)
#   - Partially developed (medium density); remaining agricultural
#   - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#   - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#   - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#**************************************************************************
R0005:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FOSTER       325.44   19.055 No_date   28:13   37.71 .660     .000
       [XIMP=.55:TIMP=.55]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
#**************************************************************************
#   Foster Pond
#   - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#     and a ratio of the catchment area to the West Clarke pond rating curve
#     from the MSS for the next coordinates
#**************************************************************************
R0005:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:FOSTER       325.44   19.055 No_date   28:13   37.71  n/a     .000
                 out <=     1.0 01:P_FOS        325.44    5.174 No_date   29:08   37.71  n/a     .000
            overflow <=     1.0 03:FO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5004E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:P_FOS        325.44    5.174 No_date   29:08   37.71  n/a     .000
                      +     1.0 02:FO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:FOSTER-OUT   325.44    5.174 No_date   29:08   37.71  n/a     .000
#**************************************************************************
R0005:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:W_CLAR_BRA    73.29    6.276 No_date   28:06   41.22 .722     .000
       [XIMP=.60:TIMP=.65]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:W_CLAR_BRA    73.29    6.276 No_date   28:06   41.22  n/a     .000
                 out <=     1.0 01:MS_P10        73.29    1.101 No_date   28:56   41.22  n/a     .000
            overflow <=     1.0 03:P10-OVF         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1093E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:S-1-FO-D2      4.94     .508 No_date   28:01   37.71 .660     .000
       [XIMP=.55:TIMP=.55]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0005:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:S-1-FO-D2      4.94     .508 No_date   28:01   37.71  n/a     .000
     Major System   /       1.0 02:S-1-FO-D2J      .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:S-1-FO-D2N     4.94     .508 No_date   28:01   37.73  n/a     .000
       {MjSysSto=.2737E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S-1-FO-D2J      .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:S-1-FO-D2N     4.94     .508 No_date   28:01   37.73  n/a     .000
                   SUM=     1.0 01:S-1-FO-D2S     4.94     .508 No_date   28:01   37.73  n/a     .000
R0005:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S-1-FO-D2S     4.94     .508 No_date   28:01   37.73  n/a     .000
                 out <=     1.0 01:S-1-FO-D2R     4.94     .033 No_date   29:34   37.73  n/a     .000
            overflow <=     1.0 03:S-1FOD2ovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1108E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FOSTER-OUT   325.44    5.174 No_date   29:08   37.71  n/a     .000
                      +     1.0 02:S-1-FO-D2R     4.94     .033 No_date   29:34   37.73  n/a     .000
                      +     1.0 02:S-1FOD2ovf      .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:980          330.38    5.207 No_date   29:08   37.71  n/a     .000
R0005:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:980          330.38    5.207 No_date   29:08   37.71  n/a     .000
       fname :980.0005
       remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0005:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:980          330.38    5.207 No_date   29:08   37.71  n/a     .000
     [RDT= 1.00] out<-      1.0 01:980-out      330.38    5.026 No_date   29:21   37.71  n/a     .000
       [L/S/n=  460./ .043/.035]
       {Vmax=  .602:Dmax= 1.267}
R0005:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:S-1-FO-D1      5.11     .605 No_date   28:00   41.68 .730     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0005:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:S-1-FO-D1      5.11     .605 No_date   28:00   41.68  n/a     .000
     Major System   /       1.0 02:S-1-FO-D1J      .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:S-1-FO-D1N     5.11     .605 No_date   28:00   41.68  n/a     .000
       {MjSysSto=.1107E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S-1-FO-D1N     5.11     .605 No_date   28:00   41.68  n/a     .000
                      +     1.0 02:S-1-FO-D1J      .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:S-1-FO-D1S     5.11     .605 No_date   28:00   41.68  n/a     .000
R0005:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S-1-FO-D1S     5.11     .605 No_date   28:00   41.68  n/a     .000
                 out <=     1.0 01:S-1-FO-D1R     5.11     .038 No_date   29:28   41.68  n/a     .000
            overflow <=     1.0 03:S-1FOD1ovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1277E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:980-out      330.38    5.026 No_date   29:21   37.71  n/a     .000
                      +     1.0 02:S-1-FO-D1R     5.11     .038 No_date   29:28   41.68  n/a     .000
                      +     1.0 02:S-1FOD1ovf      .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:520          335.49    5.064 No_date   29:21   37.77  n/a     .000
R0005:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:520          335.49    5.064 No_date   29:21   37.77  n/a     .000
       fname :520.0005
       remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0005:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:520          335.49    5.064 No_date   29:21   37.77  n/a     .000
     [RDT= 1.00] out<-      1.0 01:520-out      335.49    5.028 No_date   29:32   37.77  n/a     .000
       [L/S/n=  860./ .587/.035]
       {Vmax= 1.315:Dmax=  .603}
R0005:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:S-1-FO-F-D    14.96    1.615 No_date   28:02   41.68 .730     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0005:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:S-1-FO-F-D    14.96    1.615 No_date   28:02   41.68  n/a     .000
     Major System   /       1.0 02:S-1FO-F-DJ      .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:S-1FO-F-DN    14.96    1.615 No_date   28:02   41.69  n/a     .000
       {MjSysSto=.8656E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S-1FO-F-DJ      .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:S-1FO-F-DN    14.96    1.615 No_date   28:02   41.69  n/a     .000
                   SUM=     1.0 01:S-1FO-F-DS    14.96    1.615 No_date   28:02   41.69  n/a     .000
R0005:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S-1FO-F-DS    14.96    1.615 No_date   28:02   41.69  n/a     .000
                 out <=     1.0 01:S-1FO-F-DR    14.96     .112 No_date   29:32   41.69  n/a     .000
            overflow <=     1.0 03:S-1FoFDovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3738E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:S-1-D8         5.27     .672 No_date   28:02   30.94 .542     .000
       [XIMP=.32:TIMP=.65]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:S-1-D8         5.27     .672 No_date   28:02   30.94  n/a     .000
     Major System   /       1.0 02:S-1-D8J         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \       1.0 03:S-1-D8N        5.27     .672 No_date   28:02   30.94  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S-1-D8J         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:S-1-D8N        5.27     .672 No_date   28:02   30.94  n/a     .000
                   SUM=     1.0 01:S-1-D8S        5.27     .672 No_date   28:02   30.94  n/a     .000
R0005:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S-1-D8S        5.27     .672 No_date   28:02   30.94  n/a     .000
                 out <=     1.0 01:S-1-D8R        5.27     .036 No_date   28:48   30.94  n/a     .000
            overflow <=     1.0 03:S-1-D8Rovf      .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1197E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:S-1-A         75.88    1.479 No_date   28:37   21.69 .380     .000
       [CN= 77.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0005:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:W_CLAR_UND    35.65     .462 No_date   29:11   21.69 .380     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
```

```
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0005:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_FO        53577.82   69.319 No_date   34:07   18.39  n/a     .000
                      +    1.0 02:520-out       335.49    5.028 No_date   29:32   37.77  n/a     .000
                      +    1.0 02:MS_P10         73.29    1.101 No_date   28:56   41.22  n/a     .000
                      +    1.0 02:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:W_CLAR_UND     35.65     .462 No_date   29:11   21.69  n/a     .000
                      +    1.0 02:S-1FoFDovf       .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1FO-F-DR     14.96     .112 No_date   29:32   41.69  n/a     .000
                      +    1.0 02:S-1-D8Rovf       .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-D8R         5.27     .036 No_date   28:48   30.94  n/a     .000
                      +    1.0 02:S-1-A          75.88    1.479 No_date   28:37   21.69  n/a     .000
                   SUM=    1.0 01:SN_FO       54118.36   72.161 No_date   33:44   18.55  n/a     .000
R0005:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_FO       54118.36   72.161 No_date   33:44   18.55  n/a     .000
      fname :SN_FO.0005
      remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0005:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_FO       54118.36   72.161 No_date   33:44   18.55  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_CE        54118.36   72.088 No_date   34:08   18.55  n/a     .000
      [L/S/n=  159./ .082/.035]
      {Vmax= 1.248:Dmax= 3.107}
#***************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#***************************************************************************
R0005:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-B          55.36    1.342 No_date   28:24   21.69 .380     .000
      [CN= 77.0: N= 3.00: Tp= .45]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
#    - JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    - JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    - JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0005:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D1         21.67    2.409 No_date   28:02   42.00 .735     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D1         21.67    2.409 No_date   28:02   42.00  n/a     .000
     Major System  /       1.0 02:S-1-D1J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:S-1-D1N        21.67    2.409 No_date   28:02   42.01  n/a     .000
      {MjSysSto=.2250E-01, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D1J          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-D1N        21.67    2.409 No_date   28:02   42.01  n/a     .000
                   SUM=    1.0 01:S-1-D1S        21.67    2.409 No_date   28:02   42.01  n/a     .000
R0005:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D1S        21.67    2.409 No_date   28:02   42.01  n/a     .000
                out  <=    1.0 01:S-1-D1R        21.67     .164 No_date   29:24   42.01  n/a     .000
           overflow <=     1.0 03:S-1-D1Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5470E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D4          3.28     .421 No_date   28:00   42.00 .735     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D4          3.28     .421 No_date   28:00   42.00  n/a     .000
     Major System  /       1.0 02:S-1-D4J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:S-1-D4N         3.28     .421 No_date   28:00   42.01  n/a     .000
      {MjSysSto=.1821E-01, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D4J          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-D4N         3.28     .421 No_date   28:00   42.01  n/a     .000
                   SUM=    1.0 01:S-1-D4S         3.28     .421 No_date   28:00   42.01  n/a     .000
R0005:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D4S         3.28     .421 No_date   28:00   42.01  n/a     .000
                out  <=    1.0 01:S-1-D4R         3.28     .025 No_date   29:15   42.01  n/a     .000
           overflow <=     1.0 03:S-1-D4Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.8289E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D5         12.84    1.500 No_date   28:01   42.00 .735     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D5         12.84    1.500 No_date   28:01   42.00  n/a     .000
     Major System  /       1.0 02:S-1-D5J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:S-1-D5N        12.84    1.500 No_date   28:02   42.00  n/a     .000
      {MjSysSto=.1838E-01, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D5J          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-D5N        12.84    1.500 No_date   28:01   42.00  n/a     .000
                   SUM=    1.0 01:S-1-D5S        12.84    1.500 No_date   28:01   42.00  n/a     .000
R0005:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D5S        12.84    1.500 No_date   28:01   42.00  n/a     .000
                out  <=    1.0 01:S-1-D5R        12.84     .097 No_date   29:21   42.00  n/a     .000
           overflow <=     1.0 03:S-1-D5Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3242E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D6          1.75     .232 No_date   28:00   42.00 .735     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D6          1.75     .232 No_date   28:00   42.00  n/a     .000
     Major System  /       1.0 02:S-1-D6J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:S-1-D6N         1.75     .232 No_date   28:00   42.00  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D6J          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-D6N         1.75     .232 No_date   28:00   42.00  n/a     .000
                   SUM=    1.0 01:S-1-D6S         1.75     .232 No_date   28:00   42.00  n/a     .000
R0005:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D6S         1.75     .232 No_date   28:00   42.00  n/a     .000
                out  <=    1.0 01:S-1-D6R         1.75     .013 No_date   29:13   42.00  n/a     .000
           overflow <=     1.0 03:S-1-D6Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4422E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D7          2.03     .265 No_date   28:00   42.00 .735     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D7          2.03     .265 No_date   28:00   42.00  n/a     .000
     Major System  /       1.0 02:S-1-D7J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:S-1-D7N         2.03     .265 No_date   28:00   42.02  n/a     .000
      {MjSysSto=.7775E-02, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D7J          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-D7N         2.03     .265 No_date   28:00   42.02  n/a     .000
                   SUM=    1.0 01:S-1-D7S         2.03     .265 No_date   28:00   42.02  n/a     .000
R0005:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D7S         2.03     .265 No_date   28:00   42.02  n/a     .000
                out  <=    1.0 01:S-1-D7R         2.03     .015 No_date   29:14   42.01  n/a     .000
           overflow <=     1.0 03:S-1-D7Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5131E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=   0, TotDurOvf=   0.hrs}
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#***************************************************************************
R0005:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ       1.77     .192 No_date   28:00   37.36 .654     .000
      [XIMP=.46:TIMP=.59]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0005:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ       1.77     .192 No_date   28:00   37.36  n/a     .000
                out  <=    1.0 01:W_CLAR_MJn      1.77     .192 No_date   28:00   37.36  n/a     .000
           overflow <=     1.0 03:W_CLAR_MJj       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.9116E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40   10.597 No_date   28:05   41.22 .722     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:W_CLAR_ALL    119.40   10.597 No_date   28:05   41.22  n/a     .000
                      +    1.0 02:W_CLAR_MJj       .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:W_CLAR        119.40   10.597 No_date   28:05   41.22  n/a     .000
R0005:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:W_CLAR        119.40   10.597 No_date   28:05   41.22  n/a     .000
      fname :W_CLAR.0005
      remark:Total Flows to West Clarke
#***************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#***************************************************************************
R0005:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR        119.40   10.597 No_date   28:05   41.22  n/a     .000
                out  <=    1.0 01:MS_P2         119.40    1.795 No_date   28:54   41.22  n/a     .000
           overflow <=     1.0 03:P2-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2665E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=   0, TotDurOvf=   0.hrs}
#***************************************************************************
R0005:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_CE        54118.36   72.088 No_date   34:08   18.55  n/a     .000
                      +    1.0 02:S-1-D4R         3.28     .025 No_date   29:15   42.01  n/a     .000
                      +    1.0 02:S-1-D5R        12.84     .097 No_date   29:21   42.00  n/a     .000
                      +    1.0 02:S-1-D4Rovf       .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-D5Rovf       .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:MS_P2         119.40    1.795 No_date   28:54   41.22  n/a     .000
                      +    1.0 02:P2-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:SN_CE       54253.88   72.881 No_date   33:45   18.61  n/a     .000
R0005:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_CE       54253.88   72.881 No_date   33:45   18.61  n/a     .000
      fname :SN_CE.0005
      remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0005:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_CE       54253.88   72.881 No_date   33:45   18.61  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:5737        54253.88   69.631 No_date   36:44   18.61  n/a     .000
      [L/S/n=  270./ .018/.035]
      {Vmax=  .687:Dmax= 4.083}
R0005:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:5737        54253.88   69.631 No_date   36:44   18.61  n/a     .000
                      +    1.0 02:S-1-D1R        21.67     .164 No_date   29:24   42.01  n/a     .000
                      +    1.0 02:S-1-D6R         1.75     .013 No_date   29:13   42.00  n/a     .000
                      +    1.0 02:S-1-D7R         2.03     .015 No_date   29:14   42.01  n/a     .000
                      +    1.0 02:S-1-D1Rovf       .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-D6Rovf       .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-D7Rovf       .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:5002        54279.33   69.760 No_date   36:44   18.62  n/a     .000
R0005:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:5002        54279.33   69.760 No_date   36:44   18.62  n/a     .000
      fname :5002.0005
      remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0005:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:5002        54279.33   69.760 No_date   36:44   18.62  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_WCa       54279.33   69.764 No_date   36:42   18.62  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.068:Dmax= 2.322}
R0005:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCa       54279.33   69.764 No_date   36:42   18.62  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_WCb       54279.33   69.804 No_date   36:35   18.62  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.068:Dmax= 2.322}
R0005:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCb       54279.33   69.804 No_date   36:35   18.62  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_WC        54279.33   70.173 No_date   36:31   18.62  n/a     .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.068:Dmax= 2.323}
#***************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0005:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WC        54279.33   70.173 No_date   36:31   18.62  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_KB        54279.33   69.932 No_date   36:32   18.62  n/a     .000
      [L/S/n= 1020./ .050/.035]
      {Vmax=  .947:Dmax= 2.863}
#***************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#***************************************************************************
#***************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#***************************************************************************
R0005:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82    2.624 No_date   28:14   20.08 .351     .000
      [XIMP=.10:TIMP=.40]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01A         40.82    2.624 No_date   28:14   20.08  n/a     .000
     Major System  /       1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:KB-01A-MN      40.82    2.624 No_date   28:14   20.08  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-01A-MN      40.82    2.624 No_date   28:14   20.08  n/a     .000
                   SUM=    1.0 01:KB-01A-S       40.82    2.624 No_date   28:14   20.08  n/a     .000
R0005:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10    1.779 No_date   28:08   22.42 .393     .000
      [XIMP=.19:TIMP=.38]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01B         31.10    1.779 No_date   28:08   22.42  n/a     .000
     Major System  /       1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:KB-01B-MN      31.10    1.585 No_date   28:03   22.52  n/a     .000
      {MjSysSto=.1530E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-01B-MN      31.10    1.585 No_date   28:03   22.52  n/a     .000
                   SUM=    1.0 01:KB-01B-S       31.10    1.585 No_date   28:03   22.52  n/a     .000
R0005:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78    1.235 No_date   28:05   23.43 .410     .000
      [XIMP=.20:TIMP=.41]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01C         13.78    1.235 No_date   28:05   23.43  n/a     .000
     Major System  /       1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:KB-01C-MN      13.78    1.235 No_date   28:05   23.43  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-01C-MN      13.78    1.235 No_date   28:05   23.43  n/a     .000
                   SUM=    1.0 01:KB-01C-S       13.78    1.235 No_date   28:05   23.43  n/a     .000
R0005:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-03          84.78    6.180 No_date   28:10   22.99 .402     .000
      [XIMP=.20:TIMP=.39]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-03          84.78    6.180 No_date   28:10   22.99  n/a     .000
     Major System  /       1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:KB-03-MN       84.78    5.270 No_date   28:03   23.12  n/a     .000
      {MjSysSto=.5145E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-03-MN       84.78    5.270 No_date   28:03   23.12  n/a     .000
                   SUM=    1.0 01:KB-03-S        84.78    5.270 No_date   28:03   23.12  n/a     .000
R0005:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-04           6.95    1.043 No_date   28:01   49.53 .867     .000
      [XIMP=.85:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-04           6.95    1.043 No_date   28:01   49.53  n/a     .000
     Major System  /       1.0 02:KB-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:KB-04-MN        6.95     .503 No_date   27:48   49.78  n/a     .000
      {MjSysSto=.3742E+03, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-04-MN        6.95     .503 No_date   27:48   49.78  n/a     .000
                   SUM=    1.0 01:KB-04-S         6.95     .503 No_date   27:48   49.78  n/a     .000
R0005:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-05           5.19     .855 No_date   28:00   52.49 .919     .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-06          12.93    2.190 No_date   28:00   50.55 .885     .000
      [XIMP=.87:TIMP=.87]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-06          12.93    2.190 No_date   28:00   50.55  n/a     .000
     Major System  /       1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a     .000
     Minor System  \       1.0 03:KB-06-MN       12.93    2.190 No_date   28:00   50.55  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=   0.hrs}
R0005:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:KB-06-MN       12.93    2.190 No_date   28:00   50.55  n/a     .000
                   SUM=    1.0 01:KB-06-S        12.93    2.190 No_date   28:00   50.55  n/a     .000
R0005:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
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    CONTINUOUS STANDHYD   1.0 01:KB-11          4.03     .584 No_date   28:00   41.88 .733      .000
      [XIMP=.68:TIMP=.68]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-11          4.03     .584 No_date   28:00   41.88  n/a      .000
     Major System  /      1.0 02:KB-11-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:KB-11-MN       4.03     .577 No_date   28:00   41.89  n/a      .000
      {MjSysSto=.4277E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-11-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:KB-11-MN       4.03     .577 No_date   28:00   41.89  n/a      .000
                 SUM=     1.0 01:KB-11-S        4.03     .577 No_date   28:00   41.89  n/a      .000
R0005:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:S1             4.99     .892 No_date   28:00   52.49 .919      .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-15          2.15     .321 No_date   28:00   47.49 .831      .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-01A-S      40.82    2.624 No_date   28:14   20.08  n/a      .000
                    +     1.0 02:KB-01B-S      31.10    1.585 No_date   28:03   22.52  n/a      .000
                    +     1.0 02:KB-01C-S      13.78    1.235 No_date   28:05   23.43  n/a      .000
                    +     1.0 02:KB-03-S       84.78    5.270 No_date   28:03   23.12  n/a      .000
                    +     1.0 02:KB-04-S        6.95     .503 No_date   27:48   49.78  n/a      .000
                    +     1.0 02:KB-05          5.19     .855 No_date   28:00   52.49  n/a      .000
                    +     1.0 02:KB-06-S       12.93    2.190 No_date   28:00   50.55  n/a      .000
                    +     1.0 02:KB-11-S        4.03     .577 No_date   28:00   41.89  n/a      .000
                    +     1.0 02:KB-15          2.15     .321 No_date   28:00   47.49  n/a      .000
                    +     1.0 02:S1             4.99     .892 No_date   28:00   52.49  n/a      .000
                 SUM=     1.0 01:KB-P1        206.72   14.564 No_date   28:02   27.13  n/a      .000
R0005:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:KB-P1        206.72   14.564 No_date   28:02   27.13  n/a      .000
                 out <=   1.0 01:KB-P1R       206.72   11.746 No_date   28:15   27.13  n/a      .000
            overflow <=   1.0 03:KB-P1ovf        .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.5868E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-P1R       206.72   11.746 No_date   28:15   27.13  n/a      .000
                    +     1.0 02:KB-P1ovf        .00     .000 No_date    0:00     .00  n/a      .000
                 SUM=     1.0 01:KB-Pond1     206.72   11.746 No_date   28:15   27.13  n/a      .000
R0005:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:KB-Pond1     206.72   11.746 No_date   28:15   27.13  n/a      .000
      fname :KB-Pond1.0005
      remark:Total Flows at KB first pond
R0005:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-07         10.86    1.770 No_date   28:00   50.11 .877      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-07         10.86    1.770 No_date   28:00   50.11  n/a      .000
     Major System  /      1.0 02:KB-07-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:KB-07-MN      10.86    1.770 No_date   28:00   50.11  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-07-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:KB-07-MN      10.86    1.770 No_date   28:00   50.11  n/a      .000
                 SUM=     1.0 01:KB-07-S       10.86    1.770 No_date   28:00   50.11  n/a      .000
R0005:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-08          6.61     .900 No_date   28:00   40.32 .706      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-08          6.61     .900 No_date   28:00   40.32  n/a      .000
     Major System  /      1.0 02:KB-08-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:KB-08-MN       6.61     .900 No_date   28:00   40.32  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-08-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:KB-08-MN       6.61     .900 No_date   28:00   40.32  n/a      .000
                 SUM=     1.0 01:KB-08-S        6.61     .900 No_date   28:00   40.32  n/a      .000
R0005:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-09          2.60     .448 No_date   28:00   49.44 .865      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-10_1        2.37     .409 No_date   28:00   49.44 .865      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-10_2        1.14     .199 No_date   28:00   49.44 .865      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-12          4.86     .777 No_date   28:00   46.75 .818      .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-12          4.86     .777 No_date   28:00   46.75  n/a      .000
     Major System  /      1.0 02:KB-12-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:KB-12-MN       4.86     .777 No_date   28:00   46.75  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-12-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:KB-12-MN       4.86     .777 No_date   28:00   46.75  n/a      .000
                 SUM=     1.0 01:KB-12-S        4.86     .777 No_date   28:00   46.75  n/a      .000
R0005:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-13         10.19    1.364 No_date   28:00   40.32 .706      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-13         10.19    1.364 No_date   28:00   40.32  n/a      .000
     Major System  /      1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:KB-13-MN      10.19    1.364 No_date   28:00   40.32  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:KB-13-MN      10.19    1.364 No_date   28:00   40.32  n/a      .000
                 SUM=     1.0 01:KB-13-S       10.19    1.364 No_date   28:00   40.32  n/a      .000
R0005:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-14          5.47     .756 No_date   28:00   40.32 .706      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:KB-14          5.47     .756 No_date   28:00   40.32  n/a      .000
     Major System  /      1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:KB-14-MN       5.47     .756 No_date   28:00   40.32  n/a      .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:KB-14-MN       5.47     .756 No_date   28:00   40.32  n/a      .000
                 SUM=     1.0 01:KB-14-S        5.47     .756 No_date   28:00   40.32  n/a      .000
R0005:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-16_2        3.42     .462 No_date   28:01   43.88 .768      .000
      [XIMP=.71:TIMP=.71]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-Pond1     206.72   11.746 No_date   28:15   27.13  n/a      .000
                    +     1.0 02:KB-07-S       10.86    1.770 No_date   28:00   50.11  n/a      .000
                    +     1.0 02:KB-08-S        6.61     .900 No_date   28:00   40.32  n/a      .000
                    +     1.0 02:KB-09          2.60     .448 No_date   28:00   49.44  n/a      .000
                    +     1.0 02:KB-10_1        2.37     .409 No_date   28:00   49.43  n/a      .000
                    +     1.0 02:KB-10_2        1.14     .199 No_date   28:00   49.44  n/a      .000
                    +     1.0 02:KB-12-S        4.86     .777 No_date   28:00   46.75  n/a      .000
                    +     1.0 02:KB-13-S       10.19    1.364 No_date   28:00   40.32  n/a      .000
                    +     1.0 02:KB-14-S        5.47     .756 No_date   28:00   40.32  n/a      .000
                    +     1.0 02:KB-16_2        3.42     .462 No_date   28:01   43.88  n/a      .000
                 SUM=     1.0 01:KB-P2        254.24   16.750 No_date   28:01   30.40  n/a      .000
R0005:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:KB-P2        254.24   16.750 No_date   28:01   30.40  n/a      .000
                 out <=   1.0 01:KB-P2R       254.24   13.525 No_date   28:14   30.40  n/a      .000
            overflow <=   1.0 03:KB-P2ovf        .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.6552E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-P2R       254.24   13.525 No_date   28:14   30.40  n/a      .000
                    +     1.0 02:KB-P2ovf        .00     .000 No_date    0:00     .00  n/a      .000
                 SUM=     1.0 01:KB-Pond2     254.24   13.525 No_date   28:14   30.40  n/a      .000
R0005:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:KB-Pond2     254.24   13.525 No_date   28:14   30.40  n/a      .000
      fname :KB-Pond2.0005
      remark:Total Flows at KB second pond
R0005:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:KB-16_1        2.80     .398 No_date   28:01   45.69 .800      .000
      [XIMP=.75:TIMP=.75]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-Pond2     254.24   13.525 No_date   28:14   30.40  n/a      .000
                    +     1.0 02:KB-16_1        2.80     .398 No_date   28:01   45.69  n/a      .000
                 SUM=     1.0 01:KB-P3        257.04   13.655 No_date   28:13   30.57  n/a      .000
R0005:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:KB-P3        257.04   13.655 No_date   28:13   30.57  n/a      .000
                 out <=   1.0 01:KB-P3R        14.18     .051 No_date   17:43   30.57  n/a      .000
            overflow <=   1.0 03:KB-P3ovf     242.86   13.603 No_date   28:13   30.57  n/a      .000
     {MxStoUsed=.1998E-02  m3, TotOvfVol=.7424E+01  m3, N-Ovf=    2, TotDurOvf=   23.hrs}
R0005:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-P3R        14.18     .051 No_date   17:43   30.57  n/a      .000
                    +     1.0 02:KB-P3ovf     242.86   13.603 No_date   28:13   30.57  n/a      .000
                 SUM=     1.0 01:KB-Pond3     257.04   13.654 No_date   28:13   30.57  n/a      .000
R0005:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:KB-Pond3     257.04   13.654 No_date   28:13   30.57  n/a      .000
      fname :KB-Pond3.0005
      remark:Total Flows at KB third pond
#**************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#**************************************************************************
R0005:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FC-01          8.03     .865 No_date   28:01   32.39 .567      .000
      [XIMP=.47:TIMP=.47]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FC-01          8.03     .865 No_date   28:01   32.39  n/a      .000
     Major System  /      1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:FC-01-MN       8.03     .756 No_date   27:58   32.40  n/a      .000
      {MjSysSto=.2912E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:FC-01-MN       8.03     .756 No_date   27:58   32.40  n/a      .000
                 SUM=     1.0 01:FC-01-S        8.03     .756 No_date   27:58   32.40  n/a      .000
R0005:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FC-02         16.05    2.547 No_date   28:01   52.49 .919      .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FC-02         16.05    2.547 No_date   28:01   52.49  n/a      .000
     Major System  /      1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:FC-02-MN      16.05    1.159 No_date   27:47   52.68  n/a      .000
      {MjSysSto=.1011E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:FC-02-MN      16.05    1.159 No_date   27:47   52.68  n/a      .000
                 SUM=     1.0 01:FC-02-S       16.05    1.159 No_date   27:47   52.68  n/a      .000
R0005:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FC-03          7.37     .956 No_date   28:01   39.82 .697      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FC-03          7.37     .956 No_date   28:01   39.82  n/a      .000
     Major System  /      1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:FC-03-MN       7.37     .358 No_date   27:45   39.85  n/a      .000
      {MjSysSto=.4806E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:FC-03-MN       7.37     .358 No_date   27:45   39.85  n/a      .000
                 SUM=     1.0 01:FC-03-S        7.37     .358 No_date   27:45   39.85  n/a      .000
R0005:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FC-04         12.87    1.600 No_date   28:01   39.82 .697      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FC-04         12.87    1.600 No_date   28:01   39.82  n/a      .000
     Major System  /      1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:FC-04-MN      12.87     .741 No_date   27:48   39.85  n/a      .000
      {MjSysSto=.6277E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:FC-04-MN      12.87     .741 No_date   27:48   39.85  n/a      .000
                 SUM=     1.0 01:FC-04-S       12.87     .741 No_date   27:48   39.85  n/a      .000
#**************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#**************************************************************************
R0005:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:JR-01          8.24    1.064 No_date   28:01   39.82 .697      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:JR-01          8.24    1.064 No_date   28:01   39.82  n/a      .000
     Major System  /      1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:JR-01-MN       8.24     .563 No_date   28:29   40.05  n/a      .000
      {MjSysSto=.3052E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:JR-01-MN       8.24     .563 No_date   27:50   40.05  n/a      .000
                 SUM=     1.0 01:JR-01-S        8.24     .563 No_date   27:50   40.05  n/a      .000
R0005:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:JR-02          1.59     .224 No_date   28:00   39.82 .697      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0005:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:JR-02          1.59     .224 No_date   28:00   39.82  n/a      .000
     Major System  /      1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:JR-02-MN       1.59     .153 No_date   27:53   40.12  n/a      .000
      {MjSysSto=.2948E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:JR-02-MN       1.59     .153 No_date   27:53   40.12  n/a      .000
                 SUM=     1.0 01:JR-02-S        1.59     .153 No_date   27:53   40.12  n/a      .000
#**************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#**************************************************************************
R0005:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:FRASER-DRN    13.65     .345 No_date   28:22   21.69 .380      .000
      [CN= 77.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0005:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:FRASER-D      21.61    2.281 No_date   28:02   40.72 .713      .000
      [XIMP=.58:TIMP=.58]
      [LOSS= 2 :CN= 80.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 26.32: SMAX=175.50: SK= .010]
R0005:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    COMPUTE DUALHYD       1.0 01:FRASER-D      21.61    2.281 No_date   28:02   40.72  n/a      .000
     Major System  /      1.0 02:FRASER-J        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \      1.0 03:FRASER-N      21.61    2.281 No_date   28:02   40.73  n/a      .000
      {MjSysSto=.2000E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:FRASER-J        .00     .000 No_date    0:00     .00  n/a      .000
                    +     1.0 02:FRASER-N      21.61    2.281 No_date   28:02   40.73  n/a      .000
                 SUM=     1.0 01:FRASER-S      21.61    2.281 No_date   28:02   40.73  n/a      .000
R0005:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:KB-Pond3     257.04   13.654 No_date   28:13   30.57  n/a      .000
                    +     1.0 02:S-1-B         55.36    1.342 No_date   28:24   21.69  n/a      .000
                    +     1.0 02:FRASER-DRN    13.65     .345 No_date   28:22   21.69  n/a      .000
                    +     1.0 02:FRASER-S      21.61    2.281 No_date   28:02   40.73  n/a      .000
                    +     1.0 02:N_KB       54279.33   69.932 No_date   36:32   18.62  n/a      .000
                    +     1.0 02:FC-01-S        8.03     .756 No_date   27:58   32.40  n/a      .000
                    +     1.0 02:FC-02-S       16.05    1.159 No_date   27:47   52.68  n/a      .000
                    +     1.0 02:FC-03-S        7.37     .358 No_date   27:45   39.85  n/a      .000
                 SUM=     1.0 01:4241       54658.44   70.340 No_date   36:32   18.70  n/a      .000
R0005:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:4241       54658.44   70.340 No_date   36:32   18.70  n/a      .000
      fname :4241.0005
      remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0005:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:4241       54658.44   70.340 No_date   36:32   18.70  n/a      .000
     [RDT= 1.00] out<-    1.0 01:4241-out   54658.44   70.314 No_date   38:13   18.70  n/a      .000
      [L/S/n= 294./ .109/.035]
      {Vmax= 1.098:Dmax= 1.834}
R0005:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:4241-out   54658.44   70.314 No_date   38:13   18.70  n/a      .000
                    +     1.0 02:FC-04-S       12.87     .741 No_date   27:48   39.85  n/a      .000
                    +     1.0 02:JR-01-S        8.24     .563 No_date   27:50   40.05  n/a      .000
                    +     1.0 02:JR-02-S        1.59     .153 No_date   27:53   40.12  n/a      .000
                 SUM=     1.0 01:SN_KB      54681.13   70.342 No_date   38:13   18.71  n/a      .000
R0005:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_KB      54681.13   70.342 No_date   38:13   18.71  n/a      .000
```

```
        fname :SN_KB.0005
        remark:Total Flows before Station 3633
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0005:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_KB       54681.13   70.342 No_date   38:13   18.71  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_TO        54681.13   70.065 No_date   36:56   18.71  n/a     .000
        [L/S/n=  608./ .247/.035]
        {Vmax= 1.451:Dmax= 1.378}
#***************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#***************************************************************************
R0005:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:Greenbank       36.60    3.925 No_date   28:02   42.59 .745     .000
        [XIMP=.64:TIMP=.68]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Greenbank       36.60    3.925 No_date   28:02   42.59  n/a     .000
                 out <=     1.0 01:GreenB_MN       36.60     .811 No_date   28:35   42.58  n/a     .000
            overflow <=     1.0 03:GreenB_MJ         .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.7695E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_TO        54681.13   70.065 No_date   36:56   18.71  n/a     .000
                      +     1.0 02:GreenB_MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:GreenB_MN       36.60     .811 No_date   28:35   42.58  n/a     .000
                   SUM=     1.0 01:GreenB      54717.73   70.171 No_date   36:56   18.73  n/a     .000
R0005:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:GreenB      54717.73   70.171 No_date   36:56   18.73  n/a     .000
        fname :GreenB.0005
        remark:Total Flows at Greenbank Drain
#***************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#***************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0005:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MN2         2.10     .239 No_date   28:00   38.41 .672     .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MN3          .12     .014 No_date   28:00   38.39 .672     .000
        [XIMP=.53:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MJ         30.23    2.959 No_date   28:02   39.47 .691     .000
        [XIMP=.52:TIMP=.64]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_ALL       112.91    9.069 No_date   28:05   38.19 .669     .000
        [XIMP=.52:TIMP=.57]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_P           3.06     .385 No_date   28:00   41.58 .728     .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0005:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MJ         30.23    2.959 No_date   28:02   39.47  n/a     .000
 *               out <=     1.0 01:TODD_MJn        30.23    2.959 No_date   28:02   39.47  n/a     .000
            overflow <=     1.0 03:TODD_MJj          .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.8948E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0005:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN2         2.10     .239 No_date   28:00   38.41  n/a     .000
                 out <=     1.0 01:TODD_MN2n        2.10     .238 No_date   28:00   38.41  n/a     .000
            overflow <=     1.0 03:TODD_MN2j         .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.8965E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN3          .12     .014 No_date   28:00   38.39  n/a     .000
                 out <=     1.0 01:TODD_MN3n         .12     .014 No_date   28:00   38.39  n/a     .000
            overflow <=     1.0 03:TODD_MN3j         .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.8651E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A2              25.50    1.991 No_date   28:03   34.66 .607     .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A2              25.50    1.991 No_date   28:03   34.66  n/a     .000
      Major System   /      1.0 02:A2-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A2-MN           25.50    1.818 No_date   28:00   34.70  n/a     .000
        {MjSysSto=.5163E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:TODD_MN2n        2.10     .238 No_date   28:00   38.41  n/a     .000
                      +     1.0 02:TODD_MN3n         .12     .014 No_date   28:00   38.39  n/a     .000
                      +     1.0 02:TODD_MJj          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:TODD_P           3.06     .385 No_date   28:00   41.58  n/a     .000
                      +     1.0 02:TODD_ALL       112.91    9.069 No_date   28:05   38.19  n/a     .000
                      +     1.0 02:W_CLAR_MJn       1.77     .192 No_date   28:00   37.36  n/a     .000
                   SUM=     1.0 01:TODD           119.95    9.538 No_date   28:04   38.27  n/a     .000
R0005:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:TODD           119.95    9.538 No_date   28:04   38.27  n/a     .000
        fname :TODD.0005
        remark:Total Flows at Todd Drain
#***************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#***************************************************************************
R0005:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD           119.95    9.538 No_date   28:04   38.27  n/a     .000
                 out <=     1.0 01:MS_P3          119.95    3.765 No_date   28:29   38.27  n/a     .000
            overflow <=     1.0 03:P3-OVF            .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.2351E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:GreenB      54717.73   70.171 No_date   36:56   18.73  n/a     .000
                      +     1.0 02:MS_P3          119.95    3.765 No_date   28:29   38.27  n/a     .000
                      +     1.0 02:P3-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:TODD_MN2j         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A2-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:SN_TO       54837.69   70.373 No_date   36:55   18.77  n/a     .000
R0005:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_TO       54837.69   70.373 No_date   36:55   18.77  n/a     .000
        fname :SN_TO.0005
        remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0005:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_TO       54837.69   70.373 No_date   36:55   18.77  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:N_TO        54837.69   70.283 No_date   37:09   18.77  n/a     .000
        [L/S/n=  280./ .050/.045]
        {Vmax=  .827:Dmax= 2.568}
R0005:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:N_TO        54837.69   70.283 No_date   37:09   18.77  n/a     .000
        fname :N_TO.0005
        remark:Total inflows at Station 2462
#***************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#***************************************************************************
R0005:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:corr1           15.87    1.806 No_date   28:01   41.58 .728     .000
        [XIMP=.63:TIMP=.63]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0005:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:corr1           15.87    1.806 No_date   28:01   41.58  n/a     .000
      Major System   /      1.0 02:corr1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:corr1-MN        15.87    1.806 No_date   28:01   41.58  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    1.0 01:corr2           12.47     .161 No_date   29:11   21.69 .380     .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0005:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A1-Corrig       15.75    1.357 No_date   28:02   34.66 .607     .000
        [XIMP=.42:TIMP=.52]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A1-Corrig       15.75    1.357 No_date   28:02   34.66  n/a     .000
      Major System   /      1.0 02:A1-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A1-MN           15.75    1.357 No_date   28:02   34.66  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    1.0 01:B1               2.77     .055 No_date   28:09   13.56 .237     .000
        [CN= 56.0: N= 3.00: Tp=  .23]
        [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
        [InterEventTime=  12.00]
R0005:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A4               1.27     .153 No_date   28:00   42.00 .735     .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A4               1.27     .153 No_date   28:00   42.00  n/a     .000
      Major System   /      1.0 02:A4-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A4-MN            1.27     .153 No_date   28:00   42.00  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A1-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A1-MN           15.75    1.357 No_date   28:02   34.66  n/a     .000
                      +     1.0 02:corr1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:corr1-MN        15.87    1.806 No_date   28:01   41.58  n/a     .000
                      +     1.0 02:corr2           12.47     .161 No_date   29:11   21.69  n/a     .000
                      +     1.0 02:B1               2.77     .055 No_date   28:09   13.56  n/a     .000
                      +     1.0 02:A4-MN            1.27     .153 No_date   28:00   42.00  n/a     .000
                   SUM=     1.0 01:MH101           48.13    3.389 No_date   28:01   32.56  n/a     .000
R0005:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH101           48.13    3.389 No_date   28:01   32.56  n/a     .000
        fname :MH101.0005
        remark:Total Flows at MH101
R0005:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH101           48.13    3.389 No_date   28:01   32.56  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:101-102         48.13    3.277 No_date   28:03   32.56  n/a     .000
        [L/S/n=  368./ .540/.013]
        {Vmax= 3.010:Dmax= 1.049}
        [Din= 1.05:Dused= 1.28}
R0005:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A2-MN           25.50    1.818 No_date   28:00   34.70  n/a     .000
                      +     1.0 02:101-102         48.13    3.277 No_date   28:03   32.56  n/a     .000
                   SUM=     1.0 01:MH102           73.63    5.095 No_date   28:03   33.30  n/a     .000
R0005:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH102           73.63    5.095 No_date   28:03   33.30  n/a     .000
        fname :MH102.0005
        remark:Total Flows at MH102
R0005:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A5               1.60     .202 No_date   28:01   44.32 .776     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A4-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A5               1.60     .202 No_date   28:01   44.32  n/a     .000
                   SUM=     1.0 01:A5T              1.60     .202 No_date   28:01   44.32  n/a     .000
R0005:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A5T              1.60     .202 No_date   28:01   44.32  n/a     .000
      Major System   /      1.0 02:A5-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A5-MN            1.60     .202 No_date   28:01   44.32  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH102           73.63    5.095 No_date   28:03   33.30  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:102-103         73.63    4.821 No_date   28:05   33.30  n/a     .000
        [L/S/n=  504./ .280/.013]
        {Vmax= 2.606:Dmax= 1.382}
        [Din= 1.50:Dused= 1.68}
R0005:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:102-103         73.63    4.821 No_date   28:05   33.30  n/a     .000
                      +     1.0 02:A5-MN            1.60     .202 No_date   28:01   44.32  n/a     .000
                   SUM=     1.0 01:MH103           75.23    4.991 No_date   28:04   33.53  n/a     .000
R0005:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH103           75.23    4.991 No_date   28:04   33.53  n/a     .000
        fname :MH103.0005
        remark:Total Flows at MH103
R0005:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH103           75.23    4.991 No_date   28:04   33.53  n/a     .000
      [RDT= 1.00] out<-     1.0 01:103-104         75.23    4.875 No_date   28:06   33.53  n/a     .000
        [L/S/n=  438./ .460/.013]
        {Vmax= 3.219:Dmax= 1.124}
        [Din= 1.65:Dused= 1.65}
R0005:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A6               1.56     .200 No_date   28:01   44.32 .776     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A5-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A6               1.56     .200 No_date   28:01   44.32  n/a     .000
                   SUM=     1.0 01:A6T              1.56     .200 No_date   28:01   44.32  n/a     .000
R0005:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A6T              1.56     .200 No_date   28:01   44.32  n/a     .000
      Major System   /      1.0 02:A6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:A6-MN            1.56     .200 No_date   28:01   44.32  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A6-MN            1.56     .200 No_date   28:01   44.32  n/a     .000
                      +     1.0 02:103-104         75.23    4.875 No_date   28:06   33.53  n/a     .000
                      +     1.0 02:TODD_MJn        30.23    2.959 No_date   28:02   39.47  n/a     .000
                   SUM=     1.0 01:MH104          107.02    7.823 No_date   28:04   35.37  n/a     .000
R0005:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH104          107.02    7.823 No_date   28:04   35.37  n/a     .000
        fname :MH104.0005
        remark:Total Flows at MH104
R0005:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B2              12.31    1.023 No_date   28:02   34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B2              12.31    1.023 No_date   28:02   34.82  n/a     .000
      Major System   /      1.0 02:B2-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:B2-MN           12.31    1.023 No_date   28:02   34.82  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:B2-MN           12.31    1.023 No_date   28:02   34.82  n/a     .000
      [RDT= 1.00] out<-     1.0 01:315-333         12.31     .941 No_date   28:04   34.82  n/a     .000
        [L/S/n=  254./ .100/.013]
        {Vmax= 1.219:Dmax=  .834}
        [Din= 1.20:Dused= 1.20}
R0005:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B3               5.59     .477 No_date   28:02   34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B3               5.59     .477 No_date   28:02   34.82  n/a     .000
      Major System   /      1.0 02:B3-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \      1.0 03:B3-MN            5.59     .459 No_date   28:00   34.87  n/a     .000
        {MjSysSto=.3219E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B3-MN            5.59     .459 No_date   28:00   34.87  n/a     .000
                      +     1.0 02:315-333         12.31     .941 No_date   28:04   34.82  n/a     .000
                   SUM=     1.0 01:MH333           17.90    1.400 No_date   28:04   34.84  n/a     .000
R0005:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH333           17.90    1.400 No_date   28:04   34.84  n/a     .000
        fname :MH333.0005
        remark:Total Flows at MH333
R0005:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH333           17.90    1.400 No_date   28:04   34.84  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:333-335         17.90    1.320 No_date   28:06   34.84  n/a     .000
        [L/S/n=  251./ .100/.013]
        {Vmax= 1.282:Dmax= 1.033}
        [Din= 1.20:Dused= 1.26}
R0005:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:333-335         17.90    1.320 No_date   28:06   34.84  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:335-338         17.90    1.265 No_date   28:06   34.84  n/a     .000
        [L/S/n=  185./ .100/.013]
        {Vmax= 1.264:Dmax= 1.010}
        [Din= 1.20:Dused= 1.23}
R0005:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:335-338         17.90    1.265 No_date   28:06   34.84  n/a     .000
      [RDT= 1.00] out<-     1.0 01:338-340         17.90    1.183 No_date   28:06   34.84  n/a     .000
        [L/S/n=  233./ .100/.013]
        {Vmax= 1.294:Dmax=  .872}
        [Din= 1.35:Dused= 1.35}
R0005:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B4               7.60     .638 No_date   28:02   34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
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        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B4            7.60     .638 No_date   28:02   34.82  n/a     .000
       Major System   /     1.0 02:B4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:B4-MN         7.60     .638 No_date   28:02   34.82  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:338-340      17.90    1.183 No_date   28:06   34.84  n/a     .000
                      +     1.0 02:B4-MN         7.60     .638 No_date   28:02   34.82  n/a     .000
                   SUM=     1.0 01:MH340        25.50    1.761 No_date   28:05   34.83  n/a     .000
R0005:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH340        25.50    1.761 No_date   28:05   34.83  n/a     .000
        fname :MH340.0005
        remark:Total Flows at MH340
R0005:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH340        25.50    1.761 No_date   28:05   34.83  n/a     .000
      [RDT= 1.00] out<-     1.0 01:340-104      25.50    1.698 No_date   28:06   34.83  n/a     .000
        [L/S/n=  240./ .150/.013]
        {Vmax= 1.648:Dmax=  .823}
        [Din= 1.65:Dused= 1.65}
R0005:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:340-104      25.50    1.698 No_date   28:06   34.83  n/a     .000
                      +     1.0 02:MH104       107.02    7.823 No_date   28:04   35.37  n/a     .000
                   SUM=     1.0 01:MH104T      132.52    9.463 No_date   28:04   35.27  n/a     .000
R0005:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH104T      132.52    9.463 No_date   28:04   35.27  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:104-105     132.52    8.848 No_date   28:06   35.27  n/a     .000
        [L/S/n=  380./ .100/.013]
        {Vmax= 2.012:Dmax= 1.868}
        {HGTH= 2.20:WDTH= 2.52}
R0005:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B5            2.20     .248 No_date   28:00   38.90 .681     .000
        [XIMP=.57:TIMP=.57]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B5            2.20     .248 No_date   28:00   38.90  n/a     .000
       Major System   /     1.0 02:B5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:B5-MN         2.20     .248 No_date   28:00   38.90  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A8             .96     .130 No_date   28:00   44.32 .776     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A8             .96     .130 No_date   28:00   44.32  n/a     .000
                   SUM=     1.0 01:A8T            .96     .130 No_date   28:00   44.32  n/a     .000
R0005:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A8T            .96     .130 No_date   28:00   44.32  n/a     .000
       Major System   /     1.0 02:A8-MJ          .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:A8-MN          .96     .130 No_date   28:00   44.32  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:104-105     132.52    8.848 No_date   28:06   35.27  n/a     .000
                      +     1.0 02:B5-MN         2.20     .248 No_date   28:00   38.90  n/a     .000
                      +     1.0 02:A8-MN          .96     .130 No_date   28:00   44.32  n/a     .000
                      +     1.0 02:TODD_MN3j      .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:MH105       135.68    9.064 No_date   28:05   35.39  n/a     .000
R0005:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH105       135.68    9.064 No_date   28:05   35.39  n/a     .000
        fname :MH105.0005
        remark:Total Flows at MH105
R0005:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *   DIVERT HYD       ->    1.0 01:A8-MJ          .00     .000 No_date    0:00     .00  n/a     .000
             diverted <=    1.0 02:A8-MJ-JR       .00     .000 No_date    0:00     .00  n/a     .000
             diverted <=    1.0 03:A8-MJ-B6       .00     .000 No_date    0:00     .00  n/a     .000
R0005:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     DIVERT HYD       ->    1.0 01:MH105       135.68    9.064 No_date   28:05   35.39  n/a     .000
             diverted <=    1.0 02:MH105-JR     25.07    6.058 No_date   28:05   35.39  n/a     .000
             diverted <=    1.0 03:MH105-B6    110.61    3.006 No_date   28:05   35.39  n/a     .000
R0005:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B7            7.19     .661 No_date   28:01   34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:B7            7.19     .661 No_date   28:01   34.82  n/a     .000
                   SUM=     1.0 01:B7-B4MJ       7.19     .661 No_date   28:01   34.82  n/a     .000
R0005:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B7-B4MJ       7.19     .661 No_date   28:01   34.82  n/a     .000
       Major System   /     1.0 02:B7R-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:B7R-MN        7.19     .629 No_date   27:59   34.89  n/a     .000
        {MjSysSto=.5005E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:B7R-MN        7.19     .629 No_date   27:59   34.89  n/a     .000
      [RDT= 1.00] out<-     1.0 01:360-106A      7.19     .615 No_date   28:05   34.89  n/a     .000
        [L/S/n=  167./ .100/.013]
        {Vmax= 1.089:Dmax=  .665}
        [Din= 1.05:Dused= 1.05}
R0005:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B6            3.29     .315 No_date   28:00   34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B6            3.29     .315 No_date   28:00   34.82  n/a     .000
       Major System   /     1.0 02:B6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:B6-MN         3.29     .064 No_date   27:39   34.87  n/a     .000
        {MjSysSto=.2841E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:EX-LAND      32.50    2.843 No_date   28:02   35.73 .626     .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
R0005:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:EX-LAND      32.50    2.843 No_date   28:02   35.73  n/a     .000
       Major System   /     1.0 02:EX-LAND-MJ     .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:EX-LAND-MN   32.50    2.275 No_date   27:57   35.73  n/a     .000
        {MjSysSto=.2310E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B7R-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:EX-LAND-MJ     .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:B5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:B6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:B6-MN         3.29     .064 No_date   27:39   34.87  n/a     .000
                      +     1.0 02:A8-MJ-B6       .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:B6-B7ExMJ     3.29     .064 No_date   27:39   34.87  n/a     .000
R0005:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B6-B7ExMJ     3.29     .064 No_date   27:39   34.87  n/a     .000
       Major System   /     1.0 02:B6R-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:B6R-MN        3.29     .064 No_date   27:39   34.87  n/a     .000
        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH105-B6    110.61    3.006 No_date   28:05   35.39  n/a     .000
      [RDT= 1.00] out<-     1.0 01:105-106A    110.61    3.005 No_date   28:08   35.39  n/a     .000
        [L/S/n=  208./ .100/.013]
        {Vmax= 1.597:Dmax= 1.248}
        [Din= 1.80:Dused= 1.80}
R0005:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:360-106A      7.19     .615 No_date   28:05   34.89  n/a     .000
                      +     1.0 02:105-106A    110.61    3.005 No_date   28:08   35.39  n/a     .000
                      +     1.0 02:B6R-MN        3.29     .064 No_date   27:39   34.87  n/a     .000
                      +     1.0 02:B6R-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:MH106A      121.09    3.682 No_date   28:05   35.35  n/a     .000
R0005:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106A      121.09    3.682 No_date   28:05   35.35  n/a     .000
        fname :MH106A.0005
        remark:Total Flows at MH106A
R0005:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH106A      121.09    3.682 No_date   28:05   35.35  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:106A-106    121.09    3.651 No_date   28:05   35.35  n/a     .000
        [L/S/n=  190./ .100/.013]
        {Vmax= 1.633:Dmax= 1.484}
        [Din= 1.80:Dused= 1.81}
R0005:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A9            2.44     .316 No_date   28:00   44.32 .776     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A9            2.44     .316 No_date   28:00   44.32  n/a     .000
       Major System   /     1.0 02:A9-MJ          .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:A9-MN         2.44     .316 No_date   28:00   44.32  n/a     .000
R0005:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106A-106    121.09    3.651 No_date   28:05   35.35  n/a     .000
                      +     1.0 02:A9-MN         2.44     .316 No_date   28:00   44.32  n/a     .000
                   SUM=     1.0 01:MH106       123.53    3.896 No_date   28:03   35.52  n/a     .000
R0005:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106       123.53    3.896 No_date   28:03   35.52  n/a     .000
        fname :MH106.0005
        remark:Total Flows at MH106
R0005:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH106       123.53    3.896 No_date   28:03   35.52  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:106-107     123.53    3.814 No_date   28:07   35.52  n/a     .000
        [L/S/n=  123./ .100/.013]
        {Vmax= 1.656:Dmax= 1.516}
        [Din= 1.80:Dused= 1.85}
R0005:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A10           4.14     .345 No_date   28:01   32.29 .565     .000
        [XIMP=.35:TIMP=.47]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A10           4.14     .345 No_date   28:01   32.29  n/a     .000
       Major System   /     1.0 02:A10-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:A10-MN        4.14     .310 No_date   27:58   32.34  n/a     .000
        {MjSysSto=.7677E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A11          10.61    1.053 No_date   28:02   38.79 .679     .000
        [XIMP=.53:TIMP=.62]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00404------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A11          10.61    1.053 No_date   28:02   38.79  n/a     .000
       Major System   /     1.0 02:A11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:A11-MN       10.61     .993 No_date   28:00   38.82  n/a     .000
        {MjSysSto=.1280E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00405------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106-107     123.53    3.814 No_date   28:07   35.52  n/a     .000
                      +     1.0 02:A10-MN        4.14     .310 No_date   27:58   32.34  n/a     .000
                      +     1.0 02:A11-MN       10.61     .993 No_date   28:00   38.82  n/a     .000
                   SUM=     1.0 01:MH107       138.28    5.112 No_date   28:06   35.68  n/a     .000
R0005:C00406------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH107       138.28    5.112 No_date   28:06   35.68  n/a     .000
        fname :MH107.0005
        remark:Total Flows at MH107
R0005:C00407------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH107       138.28    5.112 No_date   28:06   35.68  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:107-119     138.28    5.061 No_date   28:07   35.68  n/a     .000
        [L/S/n=  114./ .120/.013]
        {Vmax= 1.898:Dmax= 1.622}
        [Din= 1.80:Dused= 1.98}
R0005:C00408------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:107-119     138.28    5.061 No_date   28:07   35.68  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:119-108     138.28    5.009 No_date   28:07   35.68  n/a     .000
        [L/S/n=   66./ .120/.013]
        {Vmax= 1.893:Dmax= 1.616}
        [Din= 1.80:Dused= 1.97}
R0005:C00409------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A12          12.29    1.145 No_date   28:00   34.82 .610     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00410------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A12          12.29    1.145 No_date   28:00   34.82  n/a     .000
       Major System   /     1.0 02:A12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:A12-MN       12.29    1.029 No_date   27:57   34.93  n/a     .000
        {MjSysSto=.2567E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00411------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A13           2.59     .312 No_date   28:01   44.32 .776     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00412------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A13           2.59     .312 No_date   28:01   44.32  n/a     .000
       Major System   /     1.0 02:A13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:A13-MN        2.59     .312 No_date   28:01   44.32  n/a     .000
R0005:C00413------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Pond-Block    2.94     .261 No_date   28:00   32.90 .576     .000
        [XIMP=.41:TIMP=.41]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0005:C00414------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:119-108     138.28    5.009 No_date   28:07   35.68  n/a     .000
                      +     1.0 02:A13-MN        2.59     .312 No_date   28:01   44.32  n/a     .000
                      +     1.0 02:A12-MN       12.29    1.029 No_date   27:57   34.93  n/a     .000
                   SUM=     1.0 01:MH108       153.16    6.257 No_date   28:01   35.77  n/a     .000
R0005:C00415------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH108       153.16    6.257 No_date   28:01   35.77  n/a     .000
        fname :MH108.0005
        remark:Total Flows at MH108
R0005:C00416------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:MH108       153.16    6.257 No_date   28:01   35.77  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:108-116     153.16    6.250 No_date   28:02   35.77  n/a     .000
        [L/S/n=   77./ .130/.013]
        {Vmax= 2.057:Dmax= 1.724}
        [Din= 1.80:Dused= 2.10}
R0005:C00417------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->    1.0 02:108-116     153.16    6.250 No_date   28:02   35.77  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:116-corrig  153.16    6.248 No_date   28:07   35.77  n/a     .000
        [L/S/n=   80./ .130/.013]
        {Vmax= 2.057:Dmax= 1.723}
        [Din= 1.80:Dused= 2.10}
R0005:C00418------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:116-corrig  153.16    6.248 No_date   28:07   35.77  n/a     .000
                      +     1.0 02:Pond-Block    2.94     .261 No_date   28:00   32.90  n/a     .000
                   SUM=     1.0 01:Corrigan    156.10    6.442 No_date   28:02   35.71  n/a     .000
R0005:C00419------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:Corrigan    156.10    6.442 No_date   28:02   35.71  n/a     .000
        fname :Corrigan.0005
        remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0005:C00420------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Corrigan    156.10    6.442 No_date   28:02   35.71  n/a     .000
                  out <=    1.0 01:Co-P        156.10    5.462 No_date   28:10   35.71  n/a     .000
             overflow <=    1.0 03:Co-P-OVF       .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.9809E+00 m3, TotOvfVol=.0000E+00 m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00421------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:Co-P-OVF       .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:Co-P        156.10    5.462 No_date   28:10   35.71  n/a     .000
                      +     1.0 02:N_TO      54837.69   70.283 No_date   37:09   18.77  n/a     .000
                      +     1.0 02:MH105-JR     25.07    6.058 No_date   28:05   35.39  n/a     .000
                      +     1.0 02:A8-MJ-JR       .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A9-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A10-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:A13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=     1.0 01:corrig    55018.86   70.610 No_date   37:06   18.83  n/a     .000
R0005:C00422------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:corrig    55018.86   70.610 No_date   37:06   18.83  n/a     .000
        fname :corrig.0005
        remark:Total Flows at Corrigan Pond
#*****************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#*****************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0005:C00423------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:corrig    55018.86   70.610 No_date   37:06   18.83  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_MI      55018.86   70.599 No_date   37:10   18.83  n/a     .000
        [L/S/n=  580./ .445/.045]
        {Vmax= 1.647:Dmax= 1.477}
#*****************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#*****************************************************************************
R0005:C00424------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:MILLS       175.99    9.992 No_date   28:07   30.98 .542     .000
        [XIMP=.38:TIMP=.38]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#*****************************************************************************
R0005:C00425------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:MILLS       175.99    9.992 No_date   28:07   30.97  n/a     .000
                  out <=    1.0 01:MILL_P      175.99    3.368 No_date   28:44   30.97  n/a     .000
             overflow <=    1.0 03:MIL-OV         .00     .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1941E+01 m3, TotOvfVol=.0000E+00 m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00426------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_MI      55018.86   70.599 No_date   37:10   18.83  n/a     .000
                      +     1.0 02:MIL-OV         .00     .000 No_date    0:00     .00  n/a     .000
                      +     1.0 02:MILL_P      175.99    3.368 No_date   28:44   30.97  n/a     .000
                   SUM=     1.0 01:SN_MI     55194.85   70.961 No_date   37:08   18.87  n/a     .000
R0005:C00427------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_MI     55194.85   70.961 No_date   37:08   18.87  n/a     .000
        fname :SN_MI.0005
        remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0005:C00428------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:SN_MI     55194.85   70.961 No_date   37:08   18.87  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_DE      55194.85   70.846 No_date   37:22   18.87  n/a     .000
        [L/S/n= 1962./ .223/.045]
        {Vmax= 1.305:Dmax= 1.895}
#*****************************************************************************
#    Catchment DESIRE
```

```
#     - To Jock River (north of the Jock)
#     - Rural-estate subdivision (Heart's Desire Community)
#*****************************************************************************
R0005:C00429------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:DESIRE          23.78    1.359 No_date   28:03   27.22 .477     .000
      [XIMP=.25:TIMP=.25]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#*****************************************************************************
#     Catchment JOCKVA
#     - To Jockvale SWM Facility
#     - Residential development & golf course
#     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#*****************************************************************************
R0005:C00430------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD   1.0 01:JOCKVA         225.13   14.675 No_date   28:09   35.73 .626     .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0005:C00431------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:EX-LAND-MN      32.50    2.275 No_date   27:57   35.73  n/a     .000
                    +     1.0 02:JOCKVA         225.13   14.675 No_date   28:09   35.73  n/a     .000
                    +     1.0 02:B2-MI             .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:B3-MI             .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=     1.0 01:JOCKVA-TO      257.63   16.950 No_date   28:09   35.73  n/a     .000
R0005:C00432------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:JOCKVA-TO      257.63   16.950 No_date   28:09   35.73  n/a     .000
      fname :JOCKVA-TO.0005
      remark:Total Flows at KB first pond
#*****************************************************************************
#     Jockvale SWM Facility
#     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#*****************************************************************************
R0005:C00433------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO      257.63   16.950 No_date   28:09   35.73  n/a     .000
                out <=    1.0 01:JOCK_P         257.63    4.781 No_date   28:48   35.73  n/a     .000
           overflow <=    1.0 03:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4115E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0005:C00434------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N_DE         55194.85   70.846 No_date   37:22   18.87  n/a     .000
                    +     1.0 02:DESIRE          23.78    1.359 No_date   28:03   27.22  n/a     .000
                    +     1.0 02:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                    +     1.0 02:JOCK_P         257.63    4.781 No_date   28:48   35.73  n/a     .000
                 SUM=     1.0 01:SN_DE        55476.26   71.408 No_date   37:19   18.95  n/a     .000
R0005:C00435------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_DE        55476.26   71.408 No_date   37:19   18.95  n/a     .000
      fname :SN_DE.0005
      remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0005:C00436------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:SN_DE        55476.26   71.408 No_date   37:19   18.95  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N1           55476.26   71.403 No_date   37:23   18.95  n/a     .000
      [L/S/n=  563./ .967/.045]
      {Vmax= 1.679:Dmax=  .957}
#*****************************************************************************
#     Catchment S-2
#     - To Jock River (north and south)
#     - Undeveloped floodplain and river
#*****************************************************************************
R0005:C00437------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:S-2            102.94    2.262 No_date   28:20   19.00 .333     .000
      [CN= 72.0:  N= 3.00:  Tp=  .40]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEvent Time=  12.00]
R0005:C00438------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N1           55476.26   71.403 No_date   37:23   18.95  n/a     .000
                    +     1.0 02:S-2            102.94    2.262 No_date   28:20   19.00  n/a     .000
                 SUM=     1.0 01:SN_N1        55579.20   71.539 No_date   37:23   18.95  n/a     .000
R0005:C00439------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:SN_N1        55579.20   71.539 No_date   37:23   18.95  n/a     .000
      fname :SN_N1.0005
      remark:Total Flows at Rideau River
#############################################################################
  ** END OF RUN :    9

*********************************************************************************************





 RUN#:COMMAND#
R0010:C00001---------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0010 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [M M]
#  Company       : JFSAinc.
#  License #     :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 %(as per St
# ----------------------------------------------------------------------------
R0010:C00002---------------------------------------------------------------------------
     READ STORM
      Filename = storm 001
      Comment  = Pluie SCS de 24 hres 1:10 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  64.69]
R0010:C00003---------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  64.69]
R0010:C00004---------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Based onvarious calibration exercises in Onta
                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0010:C00005---------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
      {APImax= 97.81:  APIavg= 62.29:  APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_HW         3680.00   11.879 No_date   36:59   20.23 .313     .000
      [CN= 64.0:  N= 3.00:  Tp= 7.13]
      [IaREC= 4.00:  SMIN= 57.05:  SMAX=380.32:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_13          971.00    4.365 No_date   32:35   18.83 .291     .000
      [CN= 61.0:  N= 3.00:  Tp= 3.76]
      [IaREC= 4.00:  SMIN= 64.50:  SMAX=430.01:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_GWM        3074.00    5.829 No_date   39:59   16.22 .251     .000
      [CN= 55.0:  N= 3.00:  Tp=11.33]
      [IaREC= 4.00:  SMIN= 83.24:  SMAX=554.96:  SK= .010]
      [InterEvent Time=  12.00]
R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:JR_ASH        1781.00   10.839 No_date   32:42   24.81 .383     .000
      [CN= 72.0:  N= 3.00:  Tp= 3.91]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEvent Time=  12.00]
R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_11          500.00    5.639 No_date   29:22   21.19 .328     .000
      [CN= 66.0:  N= 3.00:  Tp= 1.24]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NN_CK         1917.00    7.897 No_date   34:28   21.19 .328     .000
      [CN= 66.0:  N= 3.00:  Tp= 5.29]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_10         5666.00   21.255 No_date   37:58   24.81 .383     .000
      [CN= 72.0:  N= 3.00:  Tp= 8.00]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:KG_CK         8376.00   20.398 No_date   39:59   21.19 .328     .000
      [CN= 66.0:  N= 3.00:  Tp=11.66]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_9          1132.00    8.921 No_date   30:54   23.73 .367     .000
      [CN= 70.0:  N= 3.00:  Tp= 2.51]
      [IaREC= 4.00:  SMIN= 43.07:  SMAX=287.10:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:NC_CK         4464.00   10.128 No_date   39:59   19.29 .298     .000
      [CN= 62.0:  N= 3.00:  Tp=11.32]
      [IaREC= 4.00:  SMIN= 61.90:  SMAX=412.66:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_8           131.00    1.689 No_date   28:57   19.76 .305     .000
      [CN= 63.0:  N= 3.00:  Tp=  .90]
      [IaREC= 4.00:  SMIN= 59.42:  SMAX=396.11:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:HB_DR         3854.00   11.811 No_date   38:37   21.19 .328     .000
      [CN= 66.0:  N= 3.00:  Tp= 8.42]
      [IaREC= 4.00:  SMIN= 52.62:  SMAX=350.79:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_7          3197.00    8.899 No_date   36:26   17.07 .264     .000
      [CN= 57.0:  N= 3.00:  Tp= 6.65]
      [IaREC= 4.00:  SMIN= 76.32:  SMAX=508.81:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_6           165.00     .818 No_date   33:04   21.69 .335     .000
      [CN= 67.0:  N= 3.00:  Tp= 4.18]
      [IaREC= 4.00:  SMIN= 50.55:  SMAX=336.97:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:VG_DR         1332.00    6.069 No_date   35:17   24.81 .383     .000
      [CN= 72.0:  N= 3.00:  Tp= 5.95]
      [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
      [InterEvent Time=  12.00]
R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5           224.00    5.246 No_date   28:45   28.24 .437     .000
      [CN= 77.0:  N= 3.00:  Tp=  .75]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:FL_CK         4945.00   28.945 No_date   33:21   25.91 .401     .000
      [CN= 74.0:  N= 3.00:  Tp= 4.45]
      [IaREC= 4.00:  SMIN= 36.67:  SMAX=244.49:  SK= .010]
      [InterEvent Time=  12.00]
R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A2          20.00     .614 No_date   28:36   31.37 .485     .000
      [CN= 81.0:  N= 3.00:  Tp=  .62]
      [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
      [InterEvent Time=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_5A1        1412.00    5.817 No_date   37:54   27.06 .418     .000
      [CN= 75.0:  N= 3.00:  Tp= 8.00]
      [IaREC= 4.00:  SMIN= 33.81:  SMAX=225.43:  SK= .010]
      [InterEvent Time=  12.00]
R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_4           585.00    8.458 No_date   29:57   31.37 .485     .000
      [CN= 81.0:  N= 3.00:  Tp= 1.75]
      [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
      [InterEvent Time=  12.00]
R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:LM_CK         1021.00   11.195 No_date   30:48   30.72 .475     .000
      [CN= 80.0:  N= 3.00:  Tp= 2.46]
      [IaREC= 4.00:  SMIN= 26.32:  SMAX=175.50:  SK= .010]
      [InterEvent Time=  12.00]
R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SW_2           177.00    4.146 No_date   28:45   28.24 .437     .000
      [CN= 77.0:  N= 3.00:  Tp=  .75]
      [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
      [InterEvent Time=  12.00]
R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:SM_DR         1122.00   10.275 No_date   31:46   31.37 .485     .000
      [CN= 81.0:  N= 3.00:  Tp= 3.25]
      [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
      [InterEvent Time=  12.00]
R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD     1.0 01:MD_DR         2737.00   22.669 No_date   31:32   27.64 .427     .000
      [CN= 76.0:  N= 3.00:  Tp= 3.03]
      [IaREC= 4.00:  SMIN= 32.46:  SMAX=216.39:  SK= .010]
      [InterEvent Time=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:JR_HW         3680.00   11.879 No_date   36:59   20.23  n/a     .000
                    +     1.0 02:SW_13          971.00    4.365 No_date   32:35   18.83  n/a     .000
                 SUM=     1.0 01:S_N13         4651.00   15.130 No_date   35:28   19.94  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:S_N13         4651.00   15.130 No_date   35:28   19.94  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N13A          4651.00   12.097 No_date   39:41   19.94  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .508:Dmax= 3.307}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N13A          4651.00   12.097 No_date   39:41   19.94  n/a     .000
                    +     1.0 02:JR_GWM        3074.00    5.829 No_date   39:59   16.22  n/a     .000
                 SUM=     1.0 01:SN13A         7725.00   17.918 No_date   39:59   18.46  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->    1.0 02:SN13A         7725.00   17.918 No_date   39:59   18.46  n/a     .000
                out <=    1.0 01:RES_GM        7725.00    3.524 No_date   58:32   18.46  n/a     .000
     {MxStoUsed=.8503E+02  m3}
#
R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:RES_GM        7725.00    3.524 No_date   58:32   18.46  n/a     .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->    1.0 02:RES_GM        7725.00    3.524 No_date   58:32   18.46  n/a     .000
     [RDT= 1.00] out<-    1.0 01:N12           7725.00    3.519 No_date   61:53   18.46  n/a     .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .546:Dmax= 1.499}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD               1.0 02:N12           7725.00    3.519 No_date   61:53   18.46  n/a     .000
                    +     1.0 02:JR_ASH        1781.00   10.839 No_date   32:42   24.81  n/a     .000
                 SUM=     1.0 01:S_N12         9506.00   12.834 No_date   32:45   19.65  n/a     .000
R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD              1.0 01:S_N12         9506.00   12.834 No_date   32:45   19.65  n/a     .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
```

```
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N12         9506.00   12.834 No_date   32:45   19.65  n/a      .000
      [RDT= 1.00] out<-     1.0 01:Dum11         9506.00   12.710 No_date   33:02   19.65  n/a      .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .680:Dmax= 2.598}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:Dum11         9506.00   12.710 No_date   33:02   19.65  n/a      .000
                       +    1.0 02:SW_11          500.00    5.639 No_date   29:22   21.19  n/a      .000
                       +    1.0 02:NN_CK         1917.00    7.897 No_date   34:28   21.19  n/a      .000
                    SUM=    1.0 01:S_N11        11923.00   21.813 No_date   33:05   19.96  n/a      .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N11        11923.00   21.813 No_date   33:05   19.96  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N10          11923.00   14.761 No_date   39:58   19.96  n/a      .000
       [L/S/n=14028./ .157/.040]
       {Vmax=  .452:Dmax= 1.212}
#
# Addition of Subwatershed 10 to Node 10
#
R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N10          11923.00   14.761 No_date   39:58   19.96  n/a      .000
                       +    1.0 02:SW_10         5666.00   21.255 No_date   37:58   24.81  n/a      .000
                    SUM=    1.0 01:S_N10        17589.00   35.808 No_date   38:35   21.52  n/a      .000
R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N10        17589.00   35.808 No_date   38:35   21.52  n/a      .000
       fname :H_SN10
       remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S_N10        17589.00   35.808 No_date   38:35   21.52  n/a      .000
                       +    1.0 02:KG_CK         8376.00   20.398 No_date   39:59   21.19  n/a      .000
                    SUM=    1.0 01:S_N10A       25965.00   55.807 No_date   39:58   21.41  n/a      .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N10A       25965.00   55.807 No_date   39:58   21.41  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N9           25965.00   54.076 No_date   39:59   21.41  n/a      .000
       [L/S/n= 3982./ .075/.040]
       {Vmax=  .682:Dmax= 1.695}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N9           25965.00   54.076 No_date   39:59   21.41  n/a      .000
                       +    1.0 02:SW_9          1132.00    8.921 No_date   30:54   23.73  n/a      .000
                       +    1.0 02:NC_CK         4464.00   10.128 No_date   39:59   19.29  n/a      .000
                    SUM=    1.0 01:S_N9         31561.00   66.284 No_date   39:59   21.20  n/a      .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N9         31561.00   66.284 No_date   39:59   21.20  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N8           31561.00   61.483 No_date   39:57   21.20  n/a      .000
       [L/S/n= 2269./ .088/.045]
       {Vmax=  .363:Dmax= 1.619}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N8           31561.00   61.483 No_date   39:57   21.20  n/a      .000
                       +    1.0 02:SW_8           131.00    1.689 No_date   28:57   19.76  n/a      .000
                       +    1.0 02:HB_DR         3854.00   11.811 No_date   38:37   21.19  n/a      .000
                    SUM=    1.0 01:S_N8         35546.00   73.344 No_date   39:57   21.19  n/a      .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N8         35546.00   73.344 No_date   39:57   21.19  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N7           35546.00   61.416 No_date   45:01   21.19  n/a      .000
       [L/S/n= 3750./ .053/.070]
       {Vmax=  .218:Dmax= 1.987}
#
# Addition of Subwatershed 7 to Node 7
#
R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N7           35546.00   61.416 No_date   45:01   21.19  n/a      .000
                       +    1.0 02:SW_7          3197.00    8.899 No_date   36:26   17.07  n/a      .000
                    SUM=    1.0 01:S_N7         38743.00   65.819 No_date   44:06   20.85  n/a      .000
R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N7         38743.00   65.819 No_date   44:06   20.85  n/a      .000
       fname :H_SN7
       remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S_N7         38743.00   65.819 No_date   44:06   20.85  n/a      .000
                 out <=     1.0 01:RES_RF       38743.00   31.796 No_date   60:32   20.85  n/a      .000
      {MxStoUsed=.2597E+03  m3}
R0010:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:RES_RF       38743.00   31.796 No_date   60:32   20.85  n/a      .000
       fname :H_ResRF
       remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0010:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:RES_RF       38743.00   31.796 No_date   60:32   20.85  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N6           38743.00   31.737 No_date   62:00   20.85  n/a      .000
       [L/S/n= 3056./ .082/.025]
       {Vmax=  .477:Dmax=  .960}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0010:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N6           38743.00   31.737 No_date   62:00   20.85  n/a      .000
                       +    1.0 02:SW_6           165.00     .818 No_date   33:04   21.69  n/a      .000
                       +    1.0 02:VG_DR         1332.00    6.069 No_date   35:17   24.81  n/a      .000
                    SUM=    1.0 01:S_N6         40240.01   31.737 No_date   62:00   20.99  n/a      .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0010:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N6         40240.01   31.737 No_date   62:00   20.99  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N5           40240.01   31.713 No_date   62:48   20.99  n/a      .000
       [L/S/n= 1852./ .054/.035]
       {Vmax=  .412:Dmax= 1.069}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0010:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N5           40240.01   31.713 No_date   62:48   20.99  n/a      .000
                       +    1.0 02:SW_5           224.00    5.246 No_date   28:45   28.24  n/a      .000
                       +    1.0 02:FL_CK         4945.00   28.945 No_date   33:21   25.91  n/a      .000
                    SUM=    1.0 01:S_N5         45409.01   51.448 No_date   34:54   21.56  n/a      .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0010:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N5         45409.01   51.448 No_date   34:54   21.56  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N5A          45409.01   51.312 No_date   35:12   21.56  n/a      .000
       [L/S/n=  556./ .090/.040]
       {Vmax=  .485:Dmax= 1.131}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0010:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N5A          45409.01   51.312 No_date   35:12   21.56  n/a      .000
                       +    1.0 02:SW_5A2          20.00     .614 No_date   28:36   31.37  n/a      .000
                       +    1.0 02:SW_5A1        1412.00    5.817 No_date   37:54   27.06  n/a      .000
                    SUM=    1.0 01:S_N5A        46841.01   56.788 No_date   35:22   21.73  n/a      .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0010:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N5A        46841.01   56.788 No_date   35:22   21.73  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N4           46841.01   54.543 No_date   36:56   21.73  n/a      .000
       [L/S/n= 4630./ .043/.035]
       {Vmax=  .793:Dmax= 3.295}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0010:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N4           46841.01   54.543 No_date   36:56   21.73  n/a      .000
                       +    1.0 02:SW_4           585.00    8.458 No_date   29:57   31.37  n/a      .000
                       +    1.0 02:LM_CK         1021.00   11.195 No_date   30:48   30.72  n/a      .000
                    SUM=    1.0 01:S_N4         48447.00   59.934 No_date   36:12   22.03  n/a      .000
R0010:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N4         48447.00   59.934 No_date   36:12   22.03  n/a      .000
       fname :S_N4.0010
       remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0010:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N4         48447.00   59.934 No_date   36:12   22.03  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N2           48447.00   59.699 No_date   36:35   22.03  n/a      .000
       [L/S/n= 1667./ .060/.040]
       {Vmax=  .824:Dmax= 3.325}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0010:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N2           48447.00   59.699 No_date   36:35   22.03  n/a      .000
                       +    1.0 02:SW_2           177.00    4.146 No_date   28:45   28.24  n/a      .000
                       +    1.0 02:SM_DR         1122.00   10.275 No_date   31:46   31.37  n/a      .000
                       +    1.0 02:MD_DR         2737.00   22.669 No_date   31:32   27.64  n/a      .000
                    SUM=    1.0 01:S_N2         52483.00   83.235 No_date   33:15   22.55  n/a      .000
R0010:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N2         52483.00   83.235 No_date   33:15   22.55  n/a      .000
       fname :H_SN2
       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#***************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0010:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N2         52483.00   83.235 No_date   33:15   22.55  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N_416        52483.00   81.216 No_date   34:18   22.55  n/a      .000
       [L/S/n= 2327./ .050/.055]
       {Vmax=  .705:Dmax= 2.943}
#***************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#***************************************************************************
R0010:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_1a          536.42    3.888 No_date   31:17   23.57 .364      .000
       [CN= 72.0: N= 3.00: Tp= 2.79]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0010:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:S-1-Okeefe      44.93    5.420 No_date   28:03   48.63 .752      .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:S-1-Okeefe      44.93    5.420 No_date   28:03   48.63  n/a      .000
       Major System  /      1.0 02:S-1-OkMJ          .00     .000 No_date    0:00     .00  n/a      .000
       Minor System  \      1.0 03:S-1-OkMN        44.93    4.591 No_date   27:58   48.66  n/a      .000
       {MjSysSto=.3168E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S-1-OkMJ          .00     .000 No_date    0:00     .00  n/a      .000
                       +    1.0 02:S-1-OkMN        44.93    4.591 No_date   27:58   48.66  n/a      .000
                    SUM=    1.0 01:S-1-OkS         44.93    4.591 No_date   27:58   48.66  n/a      .000
R0010:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S-1-OkS         44.93    4.591 No_date   27:58   48.66  n/a      .000
                 out <=     1.0 01:S-1-OkSR        44.93     .393 No_date   29:29   48.66  n/a      .000
            overflow <=     1.0 03:S-1-OkSovf        .00     .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.1312E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_416        52483.00   81.216 No_date   34:18   22.55  n/a      .000
                       +    1.0 02:SW_1a          536.42    3.888 No_date   31:17   23.57  n/a      .000
                       +    1.0 02:S-1-OkSR        44.93     .393 No_date   29:29   48.66  n/a      .000
                       +    1.0 02:S-1-OkSovf        .00     .000 No_date    0:00     .00  n/a      .000
                    SUM=    1.0 01:SN_416       53064.36   84.340 No_date   33:41   22.58  n/a      .000
R0010:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_416       53064.36   84.340 No_date   33:41   22.58  n/a      .000
       fname :SN_416.0010
       remark:Total Flows at Highway 416 before Station 7245
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0010:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_416       53064.36   84.340 No_date   33:41   22.58  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N_OK         53064.36   84.256 No_date   33:41   22.58  n/a      .000
       [L/S/n=  497./ .302/.055]
       {Vmax= 1.451:Dmax= 2.498}
#***************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#***************************************************************************
R0010:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-1             63.72     .684 No_date   28:58   17.24 .266      .000
       [CN= 61.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
R0010:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:O-1             63.72     .684 No_date   28:58   17.24  n/a      .000
      [RDT= 1.00] out<-     1.0 01:O-1R            63.72     .637 No_date   29:17   17.24  n/a      .000
       [L/S/n=  960./ .630/.043]
       {Vmax=  .755:Dmax=  .334}
R0010:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-2             28.61     .242 No_date   29:13   16.01 .248      .000
       [CN= 57.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
R0010:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-4             46.94     .303 No_date   29:00   12.15 .188      .000
       [CN= 49.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
       [InterEventTime=  12.00]
R0010:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:O-1R            63.72     .637 No_date   29:17   17.24  n/a      .000
                       +    1.0 02:O-2             28.61     .242 No_date   29:13   16.01  n/a      .000
                       +    1.0 02:O-4             46.94     .303 No_date   29:00   12.15  n/a      .000
                    SUM=    1.0 01:OKF-N          139.27    1.172 No_date   29:12   15.27  n/a      .000
R0010:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:OKF-N          139.27    1.172 No_date   29:12   15.27  n/a      .000
      [RDT= 1.00] out<-     1.0 01:OKF-NR         139.27    1.170 No_date   29:16   15.27  n/a      .000
       [L/S/n=  210./ .810/.043]
       {Vmax=  .916:Dmax=  .609}
R0010:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-6             16.46     .101 No_date   28:45   10.60 .164      .000
       [CN= 43.0: N= 3.00: Tp=  .70]
       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
       [InterEventTime=  12.00]
R0010:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:O-3             39.67     .767 No_date   28:24   19.36 .299      .000
       [XIMP=.15:TIMP=.30]
       [LOSS= 2 :CN= 50.0]
       [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 99.77: SMAX=665.12: SK= .010]
R0010:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:O-5             60.63    1.881 No_date   28:10   22.00 .340      .000
       [XIMP=.13:TIMP=.26]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 64.50: SMAX=430.01: SK= .010]
R0010:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:OKF-NR         139.27    1.170 No_date   29:16   15.27  n/a      .000
                       +    1.0 02:O-3             39.67     .767 No_date   28:24   19.36  n/a      .000
                       +    1.0 02:O-5             60.63    1.881 No_date   28:10   22.00  n/a      .000
                       +    1.0 02:O-6             16.46     .101 No_date   28:45   10.60  n/a      .000
                    SUM=    1.0 01:PT1            256.03    3.008 No_date   28:23   17.20  n/a      .000
R0010:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:O-7              5.28     .056 No_date   28:37   14.05 .217      .000
       [CN= 54.0: N= 3.00: Tp=  .60]
       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
       [InterEventTime=  12.00]
R0010:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:PT1            256.03    3.008 No_date   28:23   17.20  n/a      .000
                       +    1.0 02:O-7              5.28     .056 No_date   28:37   14.05  n/a      .000
                    SUM=    1.0 01:FF             261.31    3.058 No_date   28:23   17.14  n/a      .000
R0010:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:FF             261.31    3.058 No_date   28:23   17.14  n/a      .000
      [RDT= 1.00] out<-     1.0 01:DRAIN1         261.31    2.972 No_date   28:31   17.14  n/a      .000
       [L/S/n=  302./1.000/.043]
       {Vmax=  .783:Dmax=  .667}
R0010:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:D1               1.17     .058 No_date   28:12   29.30 .453      .000
       [CN= 84.0: N= 3.00: Tp=  .28]
       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
       [InterEventTime=  12.00]
R0010:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A1               2.50     .391 No_date   28:01   50.29 .777      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:A1               2.50     .391 No_date   28:01   50.29  n/a      .000
                 out <=     1.0 01:A1-STR           2.50     .098 No_date   28:24   50.29  n/a      .000
            overflow <=     1.0 03:A1-OVF            .00     .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.5829E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:ST-2              .59     .075 No_date   28:00   38.69 .598      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
```

```
R0010:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-2            .59      .075 No_date   28:00   38.69  n/a     .000
                out  <=    1.0 01:ST2STR          .59      .052 No_date   28:05   38.69  n/a     .000
           overflow  <=    1.0 03:ST2OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1835E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-8           60.55      .857 No_date   29:04   22.40 .346     .000
       [CN= 69.0: N= 3.00: Tp= 1.00]
       [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
       [InterEventTime= 12.00]
R0010:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:O-8           60.55      .857 No_date   29:04   22.40  n/a     .000
      [RDT= 1.00] out<-    1.0 01:O8PIPE        60.55      .852 No_date   29:08   22.40  n/a     .000
       [L/S/n=  335./ .100/.013]
       {Vmax= 1.080:Dmax=  .441}
       {HGTH= 1.20:WDTH= 1.80}
R0010:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN1       261.31     2.972 No_date   28:31   17.14  n/a     .000
                    +      1.0 02:D1             1.17      .058 No_date   28:12   29.30  n/a     .000
                    +      1.0 02:A1-STR         2.50      .098 No_date   28:24   50.29  n/a     .000
                    +      1.0 02:A1-OVF          .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:ST2STR          .59      .052 No_date   28:05   38.69  n/a     .000
                    +      1.0 02:ST2OVF          .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:O8PIPE        60.55      .852 No_date   29:08   22.40  n/a     .000
                 SUM=      1.0 01:ST2-IN       326.12     3.771 No_date   28:40   18.45  n/a     .000
R0010:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A7             3.51      .538 No_date   28:01   50.29 .777     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A7             3.51      .538 No_date   28:01   50.29  n/a     .000
                out  <=    1.0 01:A7-STR         3.51      .139 No_date   28:25   50.29  n/a     .000
           overflow  <=    1.0 03:A7-OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.8167E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-3            .71      .089 No_date   28:00   38.69 .598     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-3            .71      .089 No_date   28:00   38.69  n/a     .000
                out  <=    1.0 01:ST3STR          .71      .063 No_date   28:05   38.69  n/a     .000
           overflow  <=    1.0 03:ST3OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1988E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST2-IN       326.12     3.771 No_date   28:40   18.45  n/a     .000
                    +      1.0 02:A7-STR         3.51      .139 No_date   28:25   50.29  n/a     .000
                    +      1.0 02:A7-OVF          .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:ST3STR          .71      .063 No_date   28:05   38.69  n/a     .000
                    +      1.0 02:ST3OVF          .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:PT2ST3       330.34     3.914 No_date   28:39   18.83  n/a     .000
R0010:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:PT2ST3       330.34     3.914 No_date   28:39   18.83  n/a     .000
      [RDT= 1.00] out<-    1.0 01:DRAIN2       330.34     3.640 No_date   29:01   18.83  n/a     .000
       [L/S/n=  592./ .230/.043]
       {Vmax=  .582:Dmax= 1.002}
R0010:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D2             2.28      .046 No_date   29:04   29.30 .453     .000
       [CN= 84.0: N= 3.00: Tp=  .99]
       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
       [InterEventTime= 12.00]
R0010:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A17           12.04     1.618 No_date   28:04   50.29 .777     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A17           12.04     1.618 No_date   28:04   50.29  n/a     .000
                out  <=    1.0 01:A17STR        12.04      .460 No_date   28:31   50.29  n/a     .000
           overflow  <=    1.0 03:A17OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2771E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-4            .35      .046 No_date   28:00   38.69 .598     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-4            .35      .046 No_date   28:00   38.69  n/a     .000
                out  <=    1.0 01:ST4STR          .35      .031 No_date   28:04   38.69  n/a     .000
           overflow  <=    1.0 03:ST4OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1424E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A18            5.30      .780 No_date   28:02   50.29 .777     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A18            5.30      .780 No_date   28:02   50.29  n/a     .000
                out  <=    1.0 01:A18STR         5.30      .206 No_date   28:27   50.29  n/a     .000
           overflow  <=    1.0 03:A18OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1232E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN2       330.34     3.640 No_date   29:01   18.83  n/a     .000
                    +      1.0 02:D2             2.28      .046 No_date   29:04   29.30  n/a     .000
                    +      1.0 02:A17STR        12.04      .460 No_date   28:31   50.29  n/a     .000
                    +      1.0 02:A17OVF          .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:ST4STR          .35      .031 No_date   28:04   38.69  n/a     .000
                    +      1.0 02:ST4OVF          .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:A18STR         5.30      .206 No_date   28:27   50.29  n/a     .000
                    +      1.0 02:A18OVF          .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:PT3ST4       350.31     4.213 No_date   28:57   20.48  n/a     .000
R0010:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:PT3ST4       350.31     4.213 No_date   28:57   20.48  n/a     .000
      [RDT= 1.00] out<-    1.0 01:DRAIN3       350.31     4.037 No_date   29:17   20.48  n/a     .000
       [L/S/n=  525./ .230/.043]
       {Vmax=  .606:Dmax= 1.049}
R0010:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D3             2.51      .072 No_date   28:44   32.13 .497     .000
       [CN= 86.0: N= 3.00: Tp=  .73]
       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
       [InterEventTime= 12.00]
R0010:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C1             3.41      .523 No_date   28:01   50.29 .777     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C1             3.41      .523 No_date   28:01   50.29  n/a     .000
                out  <=    1.0 01:C1-STR         3.41      .133 No_date   28:25   50.29  n/a     .000
           overflow  <=    1.0 03:C1-OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7930E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-5            .45      .058 No_date   28:00   38.69 .598     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-5            .45      .058 No_date   28:00   38.69  n/a     .000
                out  <=    1.0 01:ST5STR          .45      .040 No_date   28:04   38.69  n/a     .000
           overflow  <=    1.0 03:ST5OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1552E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN3       350.31     4.037 No_date   29:17   20.48  n/a     .000
                    +      1.0 02:D3             2.51      .072 No_date   28:44   32.13  n/a     .000
                    +      1.0 02:C1-STR         3.41      .133 No_date   28:25   50.29  n/a     .000
                    +      1.0 02:C1-OVF          .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:ST5STR          .45      .040 No_date   28:04   38.69  n/a     .000
                    +      1.0 02:ST5OVF          .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:ST5-E        356.68     4.181 No_date   29:15   20.87  n/a     .000
R0010:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:STRAND         7.59      .759 No_date   28:11   49.05 .758     .000
       [XIMP=.64:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:STRAND         7.59      .759 No_date   28:11   49.05  n/a     .000
                out  <=    1.0 01:S-POND         7.59      .066 No_date   29:41   49.05  n/a     .000
           overflow  <=    1.0 03:S-OVF           .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2593E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST5-E        356.68     4.181 No_date   29:15   20.87  n/a     .000
                    +      1.0 02:S-POND         7.59      .066 No_date   29:41   49.05  n/a     .000
                    +      1.0 02:S-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:SSAOUT       364.27     4.242 No_date   29:15   21.45  n/a     .000
R0010:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SSAOUT       364.27     4.242 No_date   29:15   21.45  n/a     .000
       fname :SSAOUT.0010
       remark:SSAOUT
R0010:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Area-A        66.75     6.470 No_date   28:10   48.24 .746     .000
       [XIMP=.64:TIMP=.80]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:Area-A        66.75     6.470 No_date   28:10   48.24  n/a     .000
       fname :Area-A.0010
       remark:SMWF-A Inflow
R0010:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Area-A        66.75     6.470 No_date   28:10   48.24  n/a     .000
                out  <=    1.0 01:SWMF-A        66.75      .465 No_date   29:54   48.24  n/a     .000
           overflow  <=    1.0 03:SWMAOV          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2359E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SWMF-A        66.75      .465 No_date   29:54   48.24  n/a     .000
       fname :SWMF-A.0010
       remark:SMWF-A Outflow
R0010:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:SSAOUT       364.27     4.242 No_date   29:15   21.45  n/a     .000
                    +      1.0 02:SWMF-A        66.75      .465 No_date   29:54   48.24  n/a     .000
                    +      1.0 02:SWMAOV          .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:PT4ST5       431.02     4.657 No_date   29:18   25.60  n/a     .000
R0010:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C6             1.87      .301 No_date   28:01   50.29 .777     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C6             1.87      .301 No_date   28:01   50.29  n/a     .000
                out  <=    1.0 01:C6-STR         1.87      .074 No_date   28:22   50.29  n/a     .000
           overflow  <=    1.0 03:C6-OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.4376E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C7             1.62      .262 No_date   28:01   50.29 .777     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C7             1.62      .262 No_date   28:01   50.29  n/a     .000
                out  <=    1.0 01:C7-STR         1.62      .064 No_date   28:22   50.29  n/a     .000
           overflow  <=    1.0 03:C7-OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3781E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-6            .41      .053 No_date   28:00   38.69 .598     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-6            .41      .053 No_date   28:00   38.69  n/a     .000
                out  <=    1.0 01:ST6STR          .41      .036 No_date   28:04   38.69  n/a     .000
           overflow  <=    1.0 03:ST6OVF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1514E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT4ST5       431.02     4.657 No_date   29:18   25.60  n/a     .000
                    +      1.0 02:C6-STR         1.87      .074 No_date   28:22   50.29  n/a     .000
                    +      1.0 02:C6-OVF          .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:C7-STR         1.62      .064 No_date   28:22   50.29  n/a     .000
                    +      1.0 02:C7-OVF          .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:ST6STR          .41      .036 No_date   28:04   38.69  n/a     .000
                    +      1.0 02:ST6OVF          .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:PT5ST6       434.92     4.740 No_date   29:18   25.81  n/a     .000
R0010:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:PT5ST6       434.92     4.740 No_date   29:18   25.81  n/a     .000
      [RDT= 1.00] out<-    1.0 01:DRAIN4       434.92     4.599 No_date   29:31   25.81  n/a     .000
       [L/S/n=  324./ .100/.043]
       {Vmax=  .468:Dmax= 1.312}
R0010:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D4             1.73      .063 No_date   28:35   34.48 .533     .000
       [CN= 88.0: N= 3.00: Tp=  .60]
       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
       [InterEventTime= 12.00]
R0010:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Area-B        24.04     3.287 No_date   28:03   47.09 .728     .000
       [XIMP=.62:TIMP=.77]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Area-B        24.04     3.287 No_date   28:03   47.09  n/a     .000
                out  <=    1.0 01:SWMF-B        24.04      .356 No_date   28:50   47.09  n/a     .000
           overflow  <=    1.0 03:SWMBOVF         .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.7142E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN4       434.92     4.599 No_date   29:31   25.81  n/a     .000
                    +      1.0 02:D4             1.73      .063 No_date   28:35   34.48  n/a     .000
                    +      1.0 02:SWMF-B        24.04      .356 No_date   28:50   47.09  n/a     .000
                    +      1.0 02:SWMBOVF         .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:D4-EX        460.69     4.958 No_date   29:31   26.95  n/a     .000
R0010:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:D4-EX        460.69     4.958 No_date   29:31   26.95  n/a     .000
      [RDT= 1.00] out<-    1.0 01:DRAIN5       460.69     4.881 No_date   29:37   26.95  n/a     .000
       [L/S/n=  413./ .160/.033]
       {Vmax=  .599:Dmax=  .896}
R0010:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D5             1.90      .057 No_date   28:41   32.13 .497     .000
       [CN= 86.0: N= 3.00: Tp=  .69]
       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
       [InterEventTime= 12.00]
R0010:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-13SDF        9.74      .371 No_date   28:22   30.32 .469     .000
       [CN= 81.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime= 12.00]
R0010:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:O-13SDF        9.74      .371 No_date   28:22   30.32  n/a     .000
                out  <=    1.0 01:SDF            9.74      .040 No_date   31:17   30.32  n/a     .000
           overflow  <=    1.0 03:OVFSDF          .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1596E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN5       460.69     4.881 No_date   29:37   26.95  n/a     .000
                    +      1.0 02:D5             1.90      .057 No_date   28:41   32.13  n/a     .000
                    +      1.0 02:SDF            9.74      .040 No_date   31:17   30.32  n/a     .000
                 SUM=      1.0 01:PT6MC        472.33     4.951 No_date   29:37   27.04  n/a     .000
R0010:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-15          10.67      .502 No_date   28:13   29.12 .450     .000
       [CN= 82.0: N= 3.00: Tp=  .30]
       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
       [InterEventTime= 12.00]
R0010:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT6MC        472.33     4.951 No_date   29:37   27.04  n/a     .000
                    +      1.0 02:O-15          10.67      .502 No_date   28:13   29.12  n/a     .000
                 SUM=      1.0 01:M-C          483.00     5.029 No_date   29:36   27.09  n/a     .000
R0010:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:M-C          483.00     5.029 No_date   29:36   27.09  n/a     .000
      [RDT= 1.00] out<-    1.0 01:O-14Ch       483.00     4.686 No_date   30:11   27.09  n/a     .000
       [L/S/n=  845./ .100/.033]
       {Vmax=  .618:Dmax= 1.565}
R0010:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-14           5.00      .389 No_date   28:04   29.12 .450     .000
       [CN= 82.0: N= 3.00: Tp=  .13]
       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
       [InterEventTime= 12.00]
R0010:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:O-14Ch       483.00     4.686 No_date   30:11   27.09  n/a     .000
                    +      1.0 02:O-14           5.00      .389 No_date   28:04   29.12  n/a     .000
                 SUM=      1.0 01:OKEEFE       488.00     4.709 No_date   30:11   27.11  n/a     .000
#****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#****************************************************************************
R0010:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D2        18.67     2.448 No_date   28:02   48.63 .752     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-D2        18.67     2.448 No_date   28:02   48.63  n/a     .000
      Major System  /      1.0 02:S-1-D2J         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:S-1-D2N       18.67     2.097 No_date   27:58   48.63  n/a     .000
      {MjSysSto=.1167E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S-1-D2J         .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:S-1-D2N       18.67     2.097 No_date   27:58   48.63  n/a     .000
                 SUM=      1.0 01:S-1-D2S       18.67     2.097 No_date   27:58   48.63  n/a     .000
R0010:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S-1-D2S       18.67     2.097 No_date   27:58   48.63  n/a     .000
                out  <=    1.0 01:S-1-D2R       18.67      .163 No_date   29:23   48.63  n/a     .000
           overflow  <=    1.0 03:S-1-D2Rovf      .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5451E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D3         6.79      .967 No_date   28:01   48.63 .752     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-D3         6.79      .967 No_date   28:01   48.63  n/a     .000
      Major System  /      1.0 02:S-1-D3J         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:S-1-D3N        6.79      .831 No_date   27:57   48.93  n/a     .000
      {MjSysSto=.3980E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S-1-D3J         .00      .000 No_date    0:00     .00  n/a     .000
                    +      1.0 02:S-1-D3N        6.79      .831 No_date   27:57   48.93  n/a     .000
                 SUM=      1.0 01:S-1-D3S        6.79      .831 No_date   27:57   48.93  n/a     .000
R0010:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S-1-D3S        6.79      .831 No_date   27:57   48.93  n/a     .000
                out  <=    1.0 01:S-1-D3R        6.79      .060 No_date   29:16   48.93  n/a     .000
           overflow  <=    1.0 03:S-1-D3Rovf      .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.2002E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_OK       53064.36    84.256 No_date   33:41   22.58  n/a     .000
                    +      1.0 02:OKEEFE       488.00     4.709 No_date   30:11   27.11  n/a     .000
```

```
                     +     1.0 02:S-1-D2R        18.67     .163 No_date   29:23   48.63  n/a     .000
                     +     1.0 02:S-1-D3R         6.79     .060 No_date   29:16   48.93  n/a     .000
                     +     1.0 02:S-1-D2Rovf       .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1-D3Rovf       .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:SN_OK       53577.82   86.110 No_date   33:41   22.63  n/a     .000
R0010:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_OK       53577.82   86.110 No_date   33:41   22.63  n/a     .000
      fname :SN_OK.0010
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0010:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_OK       53577.82   86.110 No_date   33:41   22.63  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_FO        53577.82   85.870 No_date   34:07   22.63  n/a     .000
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.104:Dmax= 2.866}
#***************************************************************************
#     Catchment FOSTER
#     - To Foster ditch (north of the Jock)
#     - Partially developed (medium density); remaining agricultural
#     - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#     - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#     - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#***************************************************************************
R0010:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:FOSTER        325.44   22.870 No_date   28:13   43.99 .680     .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#***************************************************************************
#     Foster Pond
#     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#       and a ratio of the catchment area to the West Clarke pond rating curve
#       from the MSS for the next coordinates
#***************************************************************************
R0010:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:FOSTER        325.44   22.870 No_date   28:13   43.99  n/a     .000
                out <=     1.0 01:P_FOS         325.44    6.061 No_date   29:06   43.99  n/a     .000
           overflow <=     1.0 03:FO-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5862E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:P_FOS         325.44    6.061 No_date   29:06   43.99  n/a     .000
                     +     1.0 02:FO-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:FOSTER-OUT    325.44    6.061 No_date   29:06   43.99  n/a     .000
#***************************************************************************
R0010:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA     73.29    7.523 No_date   28:05   47.94 .741     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0010:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA     73.29    7.523 No_date   28:05   47.94  n/a     .000
                out <=     1.0 01:MS_P10         73.29    1.136 No_date   29:00   47.94  n/a     .000
           overflow <=     1.0 03:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1341E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-FO-D2       4.94     .594 No_date   28:01   43.99 .680     .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0010:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-FO-D2       4.94     .594 No_date   28:01   43.99  n/a     .000
     Major System   /      1.0 02:S-1-FO-D2J       .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1-FO-D2N      4.94     .508 No_date   27:57   44.15  n/a     .000
      {MjSysSto=.2536E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-FO-D2J       .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1-FO-D2N      4.94     .508 No_date   27:57   44.15  n/a     .000
                  SUM=     1.0 01:S-1-FO-D2S      4.94     .508 No_date   27:57   44.15  n/a     .000
R0010:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-FO-D2S      4.94     .508 No_date   27:57   44.15  n/a     .000
                out <=     1.0 01:S-1-FO-D2R      4.94     .039 No_date   29:33   44.15  n/a     .000
           overflow <=     1.0 03:S-1FOD2ovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1298E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:FOSTER-OUT    325.44    6.061 No_date   29:06   43.99  n/a     .000
                     +     1.0 02:S-1-FO-D2R      4.94     .039 No_date   29:33   44.15  n/a     .000
                     +     1.0 02:S-1FOD2ovf       .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:980           330.38    6.100 No_date   29:06   43.99  n/a     .000
R0010:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:980           330.38    6.100 No_date   29:06   43.99  n/a     .000
      fname :980.0010
      remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0010:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:980           330.38    6.100 No_date   29:06   43.99  n/a     .000
     [RDT= 1.00] out<-     1.0 01:980-out       330.38    5.927 No_date   29:17   43.99  n/a     .000
      [L/S/n=  460./ .043/.035]
      {Vmax=  .634:Dmax= 1.379}
R0010:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-FO-D1       5.11     .702 No_date   28:00   48.24 .746     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0010:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-FO-D1       5.11     .702 No_date   28:00   48.24  n/a     .000
     Major System   /      1.0 02:S-1-FO-D1J       .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1-FO-D1N      5.11     .605 No_date   28:07   48.27  n/a     .000
      {MjSysSto=.2822E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-FO-D1N      5.11     .605 No_date   27:57   48.27  n/a     .000
                     +     1.0 02:S-1-FO-D1J       .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:S-1-FO-D1S      5.11     .605 No_date   27:57   48.27  n/a     .000
R0010:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-FO-D1S      5.11     .605 No_date   27:57   48.27  n/a     .000
                out <=     1.0 01:S-1-FO-D1R      5.11     .044 No_date   29:26   48.27  n/a     .000
           overflow <=     1.0 03:S-1FOD1ovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1478E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:980-out       330.38    5.927 No_date   29:17   43.99  n/a     .000
                     +     1.0 02:S-1-FO-D1R      5.11     .044 No_date   29:26   48.27  n/a     .000
                     +     1.0 02:S-1FOD1ovf       .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:520           335.49    5.972 No_date   29:17   44.06  n/a     .000
R0010:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:520           335.49    5.972 No_date   29:17   44.06  n/a     .000
      fname :520.0010
      remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0010:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:520           335.49    5.972 No_date   29:17   44.06  n/a     .000
     [RDT= 1.00] out<-     1.0 01:520-out       335.49    5.909 No_date   29:24   44.06  n/a     .000
      [L/S/n=  860./ .587/.035]
      {Vmax= 1.391:Dmax=  .659}
R0010:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-FO-F-D     14.96    1.881 No_date   28:02   48.24 .746     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0010:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-FO-F-D     14.96    1.881 No_date   28:02   48.24  n/a     .000
     Major System   /      1.0 02:S-1FO-F-DJ       .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1FO-F-DN     14.96    1.615 No_date   27:58   48.25  n/a     .000
      {MjSysSto=.8828E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1FO-F-DJ       .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1FO-F-DN     14.96    1.615 No_date   27:58   48.25  n/a     .000
                  SUM=     1.0 01:S-1FO-F-DS     14.96    1.615 No_date   27:58   48.25  n/a     .000
R0010:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1FO-F-DS     14.96    1.615 No_date   27:58   48.25  n/a     .000
                out <=     1.0 01:S-1FO-F-DR     14.96     .130 No_date   29:31   48.25  n/a     .000
           overflow <=     1.0 03:S-1FoFDovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4323E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D8          5.27     .781 No_date   28:01   35.83 .554     .000
      [XIMP=.32:TIMP=.65]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D8          5.27     .781 No_date   28:01   35.83  n/a     .000
     Major System   /      1.0 02:S-1-D8J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1-D8N         5.27     .672 No_date   27:58   35.92  n/a     .000
      {MjSysSto=.3074E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D8J          .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1-D8N         5.27     .672 No_date   27:58   35.92  n/a     .000
                  SUM=     1.0 01:S-1-D8S         5.27     .672 No_date   27:58   35.92  n/a     .000
R0010:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D8S         5.27     .672 No_date   27:58   35.92  n/a     .000
                out <=     1.0 01:S-1-D8R         5.27     .042 No_date   28:48   35.92  n/a     .000
           overflow <=     1.0 03:S-1-D8Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1398E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-A          75.88    1.915 No_date   28:36   26.85 .415     .000
      [CN= 77.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0010:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:W_CLAR_UND     35.65     .596 No_date   29:11   26.85 .415     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0010:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_FO        53577.82   85.870 No_date   34:07   22.63  n/a     .000
                     +     1.0 02:520-out       335.49    5.909 No_date   29:24   44.06  n/a     .000
                     +     1.0 02:MS_P10         73.29    1.136 No_date   29:00   47.94  n/a     .000
                     +     1.0 02:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:W_CLAR_UND     35.65     .596 No_date   29:11   26.85  n/a     .000
                     +     1.0 02:S-1FoFDovf       .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1FO-F-DR     14.96     .130 No_date   29:31   48.25  n/a     .000
                     +     1.0 02:S-1-D8Rovf       .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1-D8R         5.27     .042 No_date   28:48   35.92  n/a     .000
                     +     1.0 02:S-1-A          75.88    1.915 No_date   28:36   26.85  n/a     .000
                  SUM=     1.0 01:SN_FO       54118.36   89.426 No_date   33:26   22.82  n/a     .000
R0010:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_FO       54118.36   89.426 No_date   33:26   22.82  n/a     .000
      fname :SN_FO.0010
      remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0010:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_FO       54118.36   89.426 No_date   33:26   22.82  n/a     .000
 *   [RDT= 1.00] out<-     1.0 01:N_CE        54118.36   89.319 No_date   33:44   22.82  n/a     .000
      [L/S/n=  159./ .082/.035]
      {Vmax= 1.329:Dmax= 3.419}
#***************************************************************************
#     Catchment S-1
#     - To Jock River (north and south of Jock)
#     - Primarily agricultural fields; portion of sand quarry
#***************************************************************************
R0010:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:S-1-B          55.36    1.740 No_date   28:24   26.85 .415     .000
      [CN= 77.0: N= 3.00: Tp=  .45]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#     - JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#     - JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#     - JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0010:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D1         21.67    2.814 No_date   28:02   48.63 .752     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D1         21.67    2.814 No_date   28:02   48.63  n/a     .000
     Major System   /      1.0 02:S-1-D1J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1-D1N        21.67    2.409 No_date   27:58   48.83  n/a     .000
      {MjSysSto=.1351E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D1J          .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1-D1N        21.67    2.409 No_date   27:58   48.83  n/a     .000
                  SUM=     1.0 01:S-1-D1S        21.67    2.409 No_date   27:58   48.83  n/a     .000
R0010:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D1S        21.67    2.409 No_date   27:58   48.83  n/a     .000
                out <=     1.0 01:S-1-D1R        21.67     .191 No_date   29:23   48.83  n/a     .000
           overflow <=     1.0 03:S-1-D1Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6364E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D4          3.28     .489 No_date   28:00   48.63 .752     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D4          3.28     .489 No_date   28:00   48.63  n/a     .000
     Major System   /      1.0 02:S-1-D4J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1-D4N         3.28     .421 No_date   27:56   48.79  n/a     .000
      {MjSysSto=.1840E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D4J          .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1-D4N         3.28     .421 No_date   27:56   48.79  n/a     .000
                  SUM=     1.0 01:S-1-D4S         3.28     .421 No_date   27:56   48.79  n/a     .000
R0010:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D4S         3.28     .421 No_date   27:56   48.79  n/a     .000
                out <=     1.0 01:S-1-D4R         3.28     .029 No_date   29:14   48.79  n/a     .000
           overflow <=     1.0 03:S-1-D4Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.9630E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D5         12.84    1.749 No_date   28:01   48.63 .752     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D5         12.84    1.749 No_date   28:01   48.63  n/a     .000
     Major System   /      1.0 02:S-1-D5J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1-D5N        12.84    1.500 No_date   28:09   48.75  n/a     .000
      {MjSysSto=.7643E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D5J          .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1-D5N        12.84    1.500 No_date   27:57   48.75  n/a     .000
                  SUM=     1.0 01:S-1-D5S        12.84    1.500 No_date   27:57   48.75  n/a     .000
R0010:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D5S        12.84    1.500 No_date   27:57   48.75  n/a     .000
                out <=     1.0 01:S-1-D5R        12.84     .113 No_date   29:20   48.75  n/a     .000
           overflow <=     1.0 03:S-1-D5Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3763E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D6          1.75     .269 No_date   28:00   48.63 .752     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D6          1.75     .269 No_date   28:00   48.63  n/a     .000
     Major System   /      1.0 02:S-1-D6J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1-D6N         1.75     .232 No_date   27:55   48.88  n/a     .000
      {MjSysSto=.9608E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D6J          .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1-D6N         1.75     .232 No_date   27:55   48.88  n/a     .000
                  SUM=     1.0 01:S-1-D6S         1.75     .232 No_date   27:55   48.88  n/a     .000
R0010:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D6S         1.75     .232 No_date   27:55   48.88  n/a     .000
                out <=     1.0 01:S-1-D6R         1.75     .015 No_date   29:12   48.88  n/a     .000
           overflow <=     1.0 03:S-1-D6Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5153E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-D7          2.03     .311 No_date   28:00   48.63 .752     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-D7          2.03     .311 No_date   28:00   48.63  n/a     .000
     Major System   /      1.0 02:S-1-D7J          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1-D7N         2.03     .265 No_date   27:55   48.75  n/a     .000
      {MjSysSto=.1235E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-D7J          .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:S-1-D7N         2.03     .265 No_date   27:55   48.75  n/a     .000
                  SUM=     1.0 01:S-1-D7S         2.03     .265 No_date   27:55   48.75  n/a     .000
R0010:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-D7S         2.03     .265 No_date   27:55   48.75  n/a     .000
                out <=     1.0 01:S-1-D7R         2.03     .018 No_date   29:12   48.75  n/a     .000
           overflow <=     1.0 03:S-1-D7Rovf       .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5952E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#     Catchment W_CLAR
#     - To West Clarke Drain (south of the Jock)
#     - Subdivision with 43% imp. as per Barrhaven South MSS
#     - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#     - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#***************************************************************************
R0010:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ       1.77     .229 No_date   28:00   43.97 .680     .000
      [XIMP=.46:TIMP=.59]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0010:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ       1.77     .229 No_date   28:00   43.97  n/a     .000
                out <=     1.0 01:W_CLAR_Min      1.77     .213 No_date   27:58   43.97  n/a     .000
           overflow <=     1.0 03:W_CLAR_MJj       .00     .013 No_date   28:00   43.97  n/a     .000
     {MxStoUsed=.8179E-04  m3, TotOvfVol=.1952E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0010:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40   12.497 No_date   28:05   47.94 .741     .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0010:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:W_CLAR_ALL    119.40   12.497 No_date   28:05   47.94  n/a     .000
                     +     1.0 02:W_CLAR_MJj       .00     .013 No_date   28:00   43.97  n/a     .000
                  SUM=     1.0 01:W_CLAR        119.40   12.497 No_date   28:05   47.94  n/a     .000
```

```
R0010:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:W_CLAR        119.40    12.497 No_date   28:05    47.94  n/a      .000
      fname :W_CLAR.0010
      remark:Total Flows to West Clarke
#*************************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*************************************************************************************
R0010:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:W_CLAR        119.40    12.497 No_date   28:05    47.94  n/a      .000
                 out <=    1.0 01:MS_P2         119.40     3.959 No_date   28:33    47.94  n/a      .000
            overflow <=    1.0 03:P2-OVF           .00      .000 No_date    0:00      .00  n/a      .000
      {MxStoUsed=.2802E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
#*************************************************************************************
R0010:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_CE        54118.36    89.319 No_date   33:44    22.82  n/a      .000
                     +     1.0 02:S-1-D4R         3.28      .029 No_date   29:14    48.79  n/a      .000
                     +     1.0 02:S-1-D5R        12.84      .113 No_date   29:20    48.75  n/a      .000
                     +     1.0 02:S-1-D4Rovf       .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:S-1-D5Rovf       .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:MS_P2         119.40     3.959 No_date   28:33    47.94  n/a      .000
                     +     1.0 02:P2-OVF           .00      .000 No_date    0:00      .00  n/a      .000
                  SUM=     1.0 01:SN_CE       54253.88    90.199 No_date   33:44    22.88  n/a      .000
R0010:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_CE       54253.88    90.199 No_date   33:44    22.88  n/a      .000
      fname :SN_CE.0010
      remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0010:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_CE       54253.88    90.199 No_date   33:44    22.88  n/a      .000
 *   [RDT= 1.00] out<-     1.0 01:5737        54253.88    85.563 No_date   36:21    22.88  n/a      .000
      [L/S/n=  270./ .018/.035]
      {Vmax=  .730:Dmax= 4.478}
R0010:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:5737        54253.88    85.563 No_date   36:21    22.88  n/a      .000
                     +     1.0 02:S-1-D1R        21.67      .191 No_date   29:23    48.83  n/a      .000
                     +     1.0 02:S-1-D6R         1.75      .015 No_date   29:12    48.88  n/a      .000
                     +     1.0 02:S-1-D7R         2.03      .018 No_date   29:12    48.75  n/a      .000
                     +     1.0 02:S-1-D1Rovf       .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:S-1-D6Rovf       .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:S-1-D7Rovf       .00      .000 No_date    0:00      .00  n/a      .000
                  SUM=     1.0 01:5002        54279.34    85.716 No_date   36:21    22.89  n/a      .000
R0010:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:5002        54279.34    85.716 No_date   36:21    22.89  n/a      .000
      fname :5002.0010
      remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 %(as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0010:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:5002        54279.34    85.716 No_date   36:21    22.89  n/a      .000
 *   [RDT= 1.00] out<-     1.0 01:N_WCa       54279.34    85.732 No_date   36:17    22.89  n/a      .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.133:Dmax= 2.527}
R0010:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCa       54279.34    85.732 No_date   36:17    22.89  n/a      .000
 *   [RDT= 1.00] out<-     1.0 01:N_WCb       54279.34    85.711 No_date   36:25    22.89  n/a      .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.134:Dmax= 2.527}
R0010:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WCb       54279.34    85.711 No_date   36:25    22.89  n/a      .000
 *   [RDT= 1.00] out<-     1.0 01:N_WC        54279.34    85.718 No_date   36:25    22.89  n/a      .000
      [L/S/n=  245./ .095/.035]
      {Vmax= 1.133:Dmax= 2.527}
#*************************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0010:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:N_WC        54279.34    85.718 No_date   36:25    22.89  n/a      .000
     [RDT= 1.00] out<-     1.0 01:N_KB        54279.34    85.356 No_date   36:41    22.89  n/a      .000
      [L/S/n= 1020./ .050/.035]
      {Vmax= 1.004:Dmax= 3.138}
#*************************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#*************************************************************************************
#*************************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#*************************************************************************************
R0010:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82     3.338 No_date   28:12    24.14 .373      .000
      [XIMP=.10:TIMP=.40]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01A         40.82     3.338 No_date   28:12    24.14  n/a      .000
     Major System   /      1.0 02:KB-01A-MJ        .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-01A-MN      40.82     3.338 No_date   28:12    24.14  n/a      .000
      {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01A-MJ        .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-01A-MN      40.82     3.338 No_date   28:12    24.14  n/a      .000
                  SUM=     1.0 01:KB-01A-S       40.82     3.338 No_date   28:12    24.14  n/a      .000
R0010:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10     2.335 No_date   28:08    26.73 .413      .000
      [XIMP=.19:TIMP=.38]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01B         31.10     2.335 No_date   28:08    26.73  n/a      .000
     Major System   /      1.0 02:KB-01B-MJ        .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-01B-MN      31.10     1.585 No_date   27:59    26.78  n/a      .000
      {MjSysSto=.8272E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01B-MJ        .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-01B-MN      31.10     1.585 No_date   27:59    26.78  n/a      .000
                  SUM=     1.0 01:KB-01B-S       31.10     1.585 No_date   27:59    26.78  n/a      .000
R0010:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78     1.534 No_date   28:05    27.74 .429      .000
      [XIMP=.20:TIMP=.41]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-01C         13.78     1.534 No_date   28:05    27.74  n/a      .000
     Major System   /      1.0 02:KB-01C-MJ        .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-01C-MN      13.78     1.350 No_date   28:00    27.93  n/a      .000
      {MjSysSto=.6901E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01C-MJ        .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-01C-MN      13.78     1.350 No_date   28:00    27.93  n/a      .000
                  SUM=     1.0 01:KB-01C-S       13.78     1.350 No_date   28:00    27.93  n/a      .000
R0010:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-03          84.78     7.685 No_date   28:09    27.30 .422      .000
      [XIMP=.20:TIMP=.39]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-03          84.78     7.685 No_date   28:09    27.30  n/a      .000
     Major System   /      1.0 02:KB-03-MJ         .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-03-MN       84.78     5.270 No_date   27:59    27.40  n/a      .000
      {MjSysSto=.2022E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-03-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-03-MN       84.78     5.270 No_date   27:59    27.40  n/a      .000
                  SUM=     1.0 01:KB-03-S        84.78     5.270 No_date   27:59    27.40  n/a      .000
R0010:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-04           6.95     1.217 No_date   28:01    56.45 .873      .000
      [XIMP=.85:TIMP=.85]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-04           6.95     1.217 No_date   28:01    56.45  n/a      .000
     Major System   /      1.0 02:KB-04-MJ         .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-04-MN        6.95      .503 No_date   27:46    56.53  n/a      .000
      {MjSysSto=.5392E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-04-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-04-MN        6.95      .503 No_date   27:46    56.53  n/a      .000
                  SUM=     1.0 01:KB-04-S         6.95      .503 No_date   27:46    56.53  n/a      .000
R0010:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-05           5.19      .983 No_date   28:00    59.76 .924      .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-06          12.93     2.536 No_date   28:00    57.57 .890      .000
      [XIMP=.87:TIMP=.87]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-06          12.93     2.536 No_date   28:00    57.57  n/a      .000
     Major System   /      1.0 02:KB-06-MJ         .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-06-MN       12.93     2.262 No_date   27:56    57.80  n/a      .000
      {MjSysSto=.6369E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-06-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-06-MN       12.93     2.262 No_date   27:56    57.80  n/a      .000
                  SUM=     1.0 01:KB-06-S        12.93     2.262 No_date   27:56    57.80  n/a      .000
R0010:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-11           4.03      .686 No_date   28:00    48.04 .743      .000
      [XIMP=.68:TIMP=.68]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-11           4.03      .686 No_date   28:00    48.04  n/a      .000
     Major System   /      1.0 02:KB-11-MJ         .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-11-MN        4.03      .577 No_date   27:55    48.44  n/a      .000
      {MjSysSto=.2954E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-11-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-11-MN        4.03      .577 No_date   27:55    48.44  n/a      .000
                  SUM=     1.0 01:KB-11-S         4.03      .577 No_date   27:55    48.44  n/a      .000
R0010:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S1              4.99     1.020 No_date   28:00    59.76 .924      .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-15           2.15      .377 No_date   28:00    54.15 .837      .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-01A-S       40.82     3.338 No_date   28:12    24.14  n/a      .000
                     +     1.0 02:KB-01B-S       31.10     1.585 No_date   27:59    26.78  n/a      .000
                     +     1.0 02:KB-01C-S       13.78     1.350 No_date   28:00    27.93  n/a      .000
                     +     1.0 02:KB-03-S        84.78     5.270 No_date   27:59    27.40  n/a      .000
                     +     1.0 02:KB-04-S         6.95      .503 No_date   27:46    56.53  n/a      .000
                     +     1.0 02:KB-05           5.19      .983 No_date   28:00    59.76  n/a      .000
                     +     1.0 02:KB-06-S        12.93     2.262 No_date   27:56    57.80  n/a      .000
                     +     1.0 02:KB-11-S         4.03      .577 No_date   27:55    48.44  n/a      .000
                     +     1.0 02:KB-15           2.15      .377 No_date   28:00    54.15  n/a      .000
                     +     1.0 02:S1              4.99     1.020 No_date   28:00    59.76  n/a      .000
                  SUM=     1.0 01:KB-P1         206.72    16.418 No_date   28:01    31.86  n/a      .000
R0010:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:KB-P1         206.72    16.418 No_date   28:01    31.86  n/a      .000
                 out <=    1.0 01:KB-P1R        206.72    12.427 No_date   28:17    31.86  n/a      .000
            overflow <=    1.0 03:KB-P1ovf         .00      .000 No_date    0:00      .00  n/a      .000
      {MxStoUsed=.7282E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-P1R        206.72    12.427 No_date   28:17    31.86  n/a      .000
                     +     1.0 02:KB-P1ovf         .00      .000 No_date    0:00      .00  n/a      .000
                  SUM=     1.0 01:KB-Pond1      206.72    12.427 No_date   28:17    31.86  n/a      .000
R0010:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:KB-Pond1      206.72    12.427 No_date   28:17    31.86  n/a      .000
      fname :KB-Pond1.0010
      remark:Total Flows at KB first pond
R0010:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-07          10.86     2.042 No_date   28:00    57.07 .882      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-07          10.86     2.042 No_date   28:00    57.07  n/a      .000
     Major System   /      1.0 02:KB-07-MJ         .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-07-MN       10.86     2.042 No_date   28:00    57.07  n/a      .000
      {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-07-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-07-MN       10.86     2.042 No_date   28:00    57.07  n/a      .000
                  SUM=     1.0 01:KB-07-S        10.86     2.042 No_date   28:00    57.07  n/a      .000
R0010:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-08           6.61     1.072 No_date   28:00    46.33 .716      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-08           6.61     1.072 No_date   28:00    46.33  n/a      .000
     Major System   /      1.0 02:KB-08-MJ         .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-08-MN        6.61     1.058 No_date   28:00    46.37  n/a      .000
      {MjSysSto=.9091E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-08-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-08-MN        6.61     1.058 No_date   28:00    46.37  n/a      .000
                  SUM=     1.0 01:KB-08-S         6.61     1.058 No_date   28:00    46.37  n/a      .000
R0010:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-09           2.60      .515 No_date   28:00    56.40 .872      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-10_1         2.37      .470 No_date   28:00    56.40 .872      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-10_2         1.14      .229 No_date   28:00    56.40 .872      .000
      [XIMP=.86:TIMP=.86]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-12           4.86      .900 No_date   28:00    53.41 .826      .000
      [XIMP=.79:TIMP=.79]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-12           4.86      .900 No_date   28:00    53.41  n/a      .000
     Major System   /      1.0 02:KB-12-MJ         .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-12-MN        4.86      .867 No_date   27:58    53.47  n/a      .000
      {MjSysSto=.3261E+01,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-12-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-12-MN        4.86      .867 No_date   27:58    53.47  n/a      .000
                  SUM=     1.0 01:KB-12-S         4.86      .867 No_date   27:58    53.47  n/a      .000
R0010:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-13          10.19     1.611 No_date   28:00    46.33 .716      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-13          10.19     1.611 No_date   28:00    46.33  n/a      .000
     Major System   /      1.0 02:KB-13-MJ         .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-13-MN       10.19     1.611 No_date   28:00    46.33  n/a      .000
      {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-13-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-13-MN       10.19     1.611 No_date   28:00    46.33  n/a      .000
                  SUM=     1.0 01:KB-13-S        10.19     1.611 No_date   28:00    46.33  n/a      .000
R0010:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-14           5.47      .898 No_date   28:00    46.33 .716      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:KB-14           5.47      .898 No_date   28:00    46.33  n/a      .000
     Major System   /      1.0 02:KB-14-MJ         .00      .000 No_date    0:00      .00  n/a      .000
     Minor System   \      1.0 03:KB-14-MN        5.47      .873 No_date   27:59    46.40  n/a      .000
      {MjSysSto=.1663E+01,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-14-MJ         .00      .000 No_date    0:00      .00  n/a      .000
                     +     1.0 02:KB-14-MN        5.47      .873 No_date   27:59    46.40  n/a      .000
                  SUM=     1.0 01:KB-14-S         5.47      .873 No_date   27:59    46.40  n/a      .000
R0010:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:KB-16_2         3.42      .545 No_date   28:01    50.20 .776      .000
      [XIMP=.71:TIMP=.71]
      [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-Pond1      206.72    12.427 No_date   28:17    31.86  n/a      .000
                     +     1.0 02:KB-07-S        10.86     2.042 No_date   28:00    57.07  n/a      .000
                     +     1.0 02:KB-08-S         6.61     1.058 No_date   28:00    46.37  n/a      .000
                     +     1.0 02:KB-09           2.60      .515 No_date   28:00    56.40  n/a      .000
                     +     1.0 02:KB-10_1         2.37      .470 No_date   28:00    56.40  n/a      .000
                     +     1.0 02:KB-10_2         1.14      .229 No_date   28:00    56.40  n/a      .000
                     +     1.0 02:KB-12-S         4.86      .867 No_date   27:58    53.47  n/a      .000
                     +     1.0 02:KB-13-S        10.19     1.611 No_date   28:00    46.33  n/a      .000
                     +     1.0 02:KB-14-S         5.47      .873 No_date   27:59    46.40  n/a      .000
                     +     1.0 02:KB-16_2         3.42      .545 No_date   28:01    50.20  n/a      .000
                  SUM=     1.0 01:KB-P2         254.24    19.235 No_date   28:01    35.46  n/a      .000
R0010:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:KB-P2         254.24    19.235 No_date   28:01    35.46  n/a      .000
                 out <=    1.0 01:KB-P2R        254.24    15.083 No_date   28:10    35.46  n/a      .000
            overflow <=    1.0 03:KB-P2ovf         .00      .000 No_date    0:00      .00  n/a      .000
      {MxStoUsed=.7575E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:KB-P2R        254.24    15.083 No_date   28:10    35.46  n/a      .000
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                      +      1.0 02:KB-P2ovf          .00      .000 No_date    0:00      .00  n/a     .000
                   SUM=      1.0 01:KB-Pond2       254.24    15.083 No_date   28:10    35.46  n/a     .000
R0010:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:KB-Pond2       254.24    15.083 No_date   28:10    35.46  n/a     .000
      fname :KB-Pond2.0010
      remark:Total Flows at KB second pond
R0010:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:KB-16_1          2.80      .465 No_date   28:01    52.17 .806     .000
      [XIMP=.75:TIMP=.75]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-Pond2       254.24    15.083 No_date   28:10    35.46  n/a     .000
                      +      1.0 02:KB-16_1          2.80      .465 No_date   28:01    52.17  n/a     .000
                   SUM=      1.0 01:KB-P3          257.04    15.295 No_date   28:08    35.64  n/a     .000
R0010:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:KB-P3          257.04    15.295 No_date   28:08    35.64  n/a     .000
                  out <=     1.0 01:KB-P3R          12.26      .051 No_date   17:31    35.64  n/a     .000
             overflow <=     1.0 03:KB-P3ovf       244.78    15.243 No_date   28:09    35.64  n/a     .000
     {MxStoUsed=.1993E-02  m3, TotOvfVol=.8724E+01  m3, N-Ovf=    2, TotDurOvf=   23.hrs}
R0010:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-P3R          12.26      .051 No_date   17:31    35.64  n/a     .000
                      +      1.0 02:KB-P3ovf       244.78    15.243 No_date   28:09    35.64  n/a     .000
                   SUM=      1.0 01:KB-Pond3       257.04    15.294 No_date   28:09    35.64  n/a     .000
R0010:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:KB-Pond3       257.04    15.294 No_date   28:09    35.64  n/a     .000
      fname :KB-Pond3.0010
      remark:Total Flows at KB third pond
#*****************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#*****************************************************************************
R0010:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:FC-01            8.03     1.049 No_date   28:01    37.67 .582     .000
      [XIMP=.47:TIMP=.47]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:FC-01            8.03     1.049 No_date   28:01    37.67  n/a     .000
     Major System   /        1.0 02:FC-01-MJ          .00      .000 No_date    0:00      .00  n/a     .000
     Minor System   \        1.0 03:FC-01-MN         8.03      .756 No_date   28:17    37.91  n/a     .000
      {MjSysSto=.1270E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:FC-01-MJ          .00      .000 No_date    0:00      .00  n/a     .000
                      +      1.0 02:FC-01-MN         8.03      .756 No_date   27:55    37.91  n/a     .000
                   SUM=      1.0 01:FC-01-S          8.03      .756 No_date   27:55    37.91  n/a     .000
R0010:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:FC-02           16.05     2.930 No_date   28:01    59.76 .924     .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:FC-02           16.05     2.930 No_date   28:01    59.76  n/a     .000
     Major System   /        1.0 02:FC-02-MJ          .00      .000 No_date    0:00      .00  n/a     .000
     Minor System   \        1.0 03:FC-02-MN        16.05     1.159 No_date   27:46    59.94  n/a     .000
      {MjSysSto=.1407E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:FC-02-MJ          .00      .000 No_date    0:00      .00  n/a     .000
                      +      1.0 02:FC-02-MN        16.05     1.159 No_date   27:46    59.94  n/a     .000
                   SUM=      1.0 01:FC-02-S         16.05     1.159 No_date   27:46    59.94  n/a     .000
R0010:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:FC-03            7.37     1.130 No_date   28:01    45.83 .708     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:FC-03            7.37     1.130 No_date   28:01    45.83  n/a     .000
     Major System   /        1.0 02:FC-03-MJ          .00      .000 No_date    0:00      .00  n/a     .000
     Minor System   \        1.0 03:FC-03-MN         7.37      .358 No_date   27:45    45.93  n/a     .000
      {MjSysSto=.6763E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:FC-03-MJ          .00      .000 No_date    0:00      .00  n/a     .000
                      +      1.0 02:FC-03-MN         7.37      .358 No_date   27:45    45.93  n/a     .000
                   SUM=      1.0 01:FC-03-S          7.37      .358 No_date   27:45    45.93  n/a     .000
R0010:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:FC-04           12.87     1.906 No_date   28:01    45.83 .708     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:FC-04           12.87     1.906 No_date   28:01    45.83  n/a     .000
     Major System   /        1.0 02:FC-04-MJ          .00      .000 No_date    0:00      .00  n/a     .000
     Minor System   \        1.0 03:FC-04-MN        12.87      .741 No_date   27:46    45.93  n/a     .000
      {MjSysSto=.9380E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:FC-04-MJ          .00      .000 No_date    0:00      .00  n/a     .000
                      +      1.0 02:FC-04-MN        12.87      .741 No_date   27:46    45.93  n/a     .000
                   SUM=      1.0 01:FC-04-S         12.87      .741 No_date   27:46    45.93  n/a     .000
#*****************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#*****************************************************************************
R0010:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:JR-01            8.24     1.257 No_date   28:01    45.83 .708     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:JR-01            8.24     1.257 No_date   28:01    45.83  n/a     .000
     Major System   /        1.0 02:JR-01-MJ          .00      .000 No_date    0:00      .00  n/a     .000
     Minor System   \        1.0 03:JR-01-MN         8.24      .563 No_date   28:39    46.14  n/a     .000
      {MjSysSto=.4889E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:JR-01-MJ          .00      .000 No_date    0:00      .00  n/a     .000
                      +      1.0 02:JR-01-MN         8.24      .563 No_date   27:47    46.14  n/a     .000
                   SUM=      1.0 01:JR-01-S          8.24      .563 No_date   27:47    46.14  n/a     .000
R0010:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:JR-02            1.59      .264 No_date   28:00    45.83 .708     .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0010:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:JR-02            1.59      .264 No_date   28:00    45.83  n/a     .000
     Major System   /        1.0 02:JR-02-MJ          .00      .000 No_date    0:00      .00  n/a     .000
     Minor System   \        1.0 03:JR-02-MN         1.59      .153 No_date   27:51    46.12  n/a     .000
      {MjSysSto=.5453E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:JR-02-MJ          .00      .000 No_date    0:00      .00  n/a     .000
                      +      1.0 02:JR-02-MN         1.59      .153 No_date   27:51    46.12  n/a     .000
                   SUM=      1.0 01:JR-02-S          1.59      .153 No_date   27:51    46.12  n/a     .000
#*****************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#*****************************************************************************
R0010:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD        1.0 01:FRASER-DRN      13.65      .447 No_date   28:22    26.85 .415     .000
      [CN= 77.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0010:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:FRASER-D        21.61     2.700 No_date   28:01    47.42 .733     .000
      [XIMP=.58:TIMP=.58]
      [LOSS= 2 :CN= 80.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 26.32: SMAX=175.50: SK= .010]
R0010:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:FRASER-D        21.61     2.700 No_date   28:01    47.42  n/a     .000
     Major System   /        1.0 02:FRASER-J          .00      .000 No_date    0:00      .00  n/a     .000
     Minor System   \        1.0 03:FRASER-N        21.61     2.281 No_date   27:57    47.46  n/a     .000
      {MjSysSto=.1390E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:FRASER-J          .00      .000 No_date    0:00      .00  n/a     .000
                      +      1.0 02:FRASER-N        21.61     2.281 No_date   27:57    47.46  n/a     .000
                   SUM=      1.0 01:FRASER-S        21.61     2.281 No_date   27:57    47.46  n/a     .000
R0010:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:KB-Pond3       257.04    15.294 No_date   28:09    35.64  n/a     .000
                      +      1.0 02:S-1-B           55.36     1.740 No_date   28:24    26.85  n/a     .000
                      +      1.0 02:FRASER-DRN      13.65      .447 No_date   28:22    26.85  n/a     .000
                      +      1.0 02:FRASER-S        21.61     2.281 No_date   27:57    47.46  n/a     .000
                      +      1.0 02:N_KB         54279.34    85.356 No_date   36:41    22.89  n/a     .000
                      +      1.0 02:FC-01-S          8.03      .756 No_date   27:55    37.91  n/a     .000
                      +      1.0 02:FC-02-S         16.05     1.159 No_date   27:46    59.94  n/a     .000
                      +      1.0 02:FC-03-S          7.37      .358 No_date   27:45    45.93  n/a     .000
                   SUM=      1.0 01:4241         54658.45    85.806 No_date   36:39    22.98  n/a     .000
R0010:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:4241         54658.45    85.806 No_date   36:39    22.98  n/a     .000
      fname :4241.0010
      remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0010:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:4241         54658.45    85.806 No_date   36:39    22.98  n/a     .000
     [RDT= 1.00] out<-       1.0 01:4241-out     54658.45    85.856 No_date   36:23    22.98  n/a     .000
      [L/S/n=  294./ .109/.035]
      {Vmax= 1.172:Dmax= 2.015}
R0010:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:4241-out     54658.45    85.856 No_date   36:23    22.98  n/a     .000
```

```
                      +      1.0 02:FC-04-S         12.87      .741 No_date   27:46    45.93  n/a     .000
                      +      1.0 02:JR-01-S          8.24      .563 No_date   27:47    46.14  n/a     .000
                      +      1.0 02:JR-02-S          1.59      .153 No_date   27:51    46.12  n/a     .000
                   SUM=      1.0 01:SN_KB        54681.14    85.887 No_date   36:23    22.99  n/a     .000
R0010:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:SN_KB        54681.14    85.887 No_date   36:23    22.99  n/a     .000
      fname :SN_KB.0010
      remark:Total Flows before Station 3633
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0010:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:SN_KB        54681.14    85.887 No_date   36:23    22.99  n/a     .000
     [RDT= 1.00] out<-       1.0 01:N_TO         54681.14    85.808 No_date   36:44    22.99  n/a     .000
      [L/S/n=  608./ .247/.035]
      {Vmax= 1.553:Dmax= 1.518}
#*****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#*****************************************************************************
R0010:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:Greenbank       36.60     4.662 No_date   28:02    49.38 .763     .000
      [XIMP=.64:TIMP=.68]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:Greenbank       36.60     4.662 No_date   28:02    49.38  n/a     .000
                  out <=     1.0 01:GreenB_MN       36.60     1.697 No_date   28:18    49.38  n/a     .000
             overflow <=     1.0 03:GreenB_MJ         .00      .000 No_date    0:00      .00  n/a     .000
     {MxStoUsed=.8299E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:N_TO         54681.14    85.808 No_date   36:44    22.99  n/a     .000
                      +      1.0 02:GreenB_MJ         .00      .000 No_date    0:00      .00  n/a     .000
                      +      1.0 02:GreenB_MN       36.60     1.697 No_date   28:18    49.38  n/a     .000
                   SUM=      1.0 01:GreenB       54717.74    85.928 No_date   36:44    23.01  n/a     .000
R0010:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:GreenB       54717.74    85.928 No_date   36:44    23.01  n/a     .000
      fname :GreenB.0010
      remark:Total Flows at Greenbank Drain
#*****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#*****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0010:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:TODD_MN2         2.10      .282 No_date   28:00    44.92 .694     .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:TODD_MN3          .12      .016 No_date   28:00    44.90 .694     .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:TODD_MJ         30.23     3.512 No_date   28:02    46.20 .714     .000
      [XIMP=.52:TIMP=.64]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:TODD_ALL       112.91    10.943 No_date   28:05    44.71 .691     .000
      [XIMP=.52:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:TODD_P           3.06      .451 No_date   28:00    48.23 .745     .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0010:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:TODD_MJ         30.23     3.512 No_date   28:02    46.20  n/a     .000
                  out <=     1.0 01:TODD_MJn        30.14     3.314 No_date   28:00    46.20  n/a     .000
             overflow <=     1.0 03:TODD_MJj          .09      .190 No_date   28:03    46.20  n/a     .000
     {MxStoUsed=.4110E-03  m3, TotOvfVol=.4062E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0010:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:TODD_MN2         2.10      .282 No_date   28:00    44.92  n/a     .000
                  out <=     1.0 01:TODD_MN2n        2.10      .268 No_date   27:58    44.92  n/a     .000
             overflow <=     1.0 03:TODD_MN2j         .00      .011 No_date   28:00    44.92  n/a     .000
     {MxStoUsed=.1267E-03  m3, TotOvfVol=.1440E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0010:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:TODD_MN3          .12      .016 No_date   28:00    44.90  n/a     .000
                  out <=     1.0 01:TODD_MN3n         .12      .016 No_date   28:00    44.90  n/a     .000
             overflow <=     1.0 03:TODD_MN3j         .00      .000 No_date   28:00    44.90  n/a     .000
     {MxStoUsed=.1007E-03  m3, TotOvfVol=.1379E-05  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0010:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:A2              25.50     2.388 No_date   28:03    40.97 .633     .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:A2              25.50     2.388 No_date   28:03    40.97  n/a     .000
     Major System   /        1.0 02:A2-MJ             .00      .000 No_date    0:00      .00  n/a     .000
     Minor System   \        1.0 03:A2-MN           25.50     1.818 No_date   27:57    40.97  n/a     .000
      {MjSysSto=.2896E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:TODD_MN2n        2.10      .268 No_date   27:58    44.92  n/a     .000
                      +      1.0 02:TODD_MN3n         .12      .016 No_date   28:00    44.90  n/a     .000
                      +      1.0 02:TODD_MJj          .09      .190 No_date   28:03    46.20  n/a     .000
                      +      1.0 02:TODD_P           3.06      .451 No_date   28:00    48.23  n/a     .000
                      +      1.0 02:TODD_ALL       112.91    10.943 No_date   28:05    44.71  n/a     .000
                      +      1.0 02:W_CLAR_MJn       1.77      .213 No_date   27:58    43.97  n/a     .000
                   SUM=      1.0 01:TODD           120.03    11.699 No_date   28:03    44.79  n/a     .000
R0010:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:TODD           120.03    11.699 No_date   28:03    44.79  n/a     .000
      fname :TODD.0010
      remark:Total Flows at Todd Drain
#*****************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#*****************************************************************************
R0010:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->       1.0 02:TODD           120.03    11.699 No_date   28:03    44.79  n/a     .000
                  out <=     1.0 01:MS_P3          120.03     6.151 No_date   28:20    44.79  n/a     .000
             overflow <=     1.0 03:P3-OVF            .00      .000 No_date    0:00      .00  n/a     .000
     {MxStoUsed=.2461E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                  1.0 02:GreenB       54717.74    85.928 No_date   36:44    23.01  n/a     .000
                      +      1.0 02:MS_P3          120.03     6.151 No_date   28:20    44.79  n/a     .000
                      +      1.0 02:P3-OVF            .00      .000 No_date    0:00      .00  n/a     .000
                      +      1.0 02:TODD_MN2j         .00      .011 No_date   28:00    44.92  n/a     .000
                      +      1.0 02:A2-MJ             .00      .000 No_date    0:00      .00  n/a     .000
                   SUM=      1.0 01:SN_TO        54837.78    86.177 No_date   36:43    23.06  n/a     .000
R0010:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:SN_TO        54837.78    86.177 No_date   36:43    23.06  n/a     .000
      fname :SN_TO.0010
      remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0010:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->       1.0 02:SN_TO        54837.78    86.177 No_date   36:43    23.06  n/a     .000
 *   [RDT= 1.00] out<-       1.0 01:N_TO         54837.78    85.488 No_date   37:22    23.06  n/a     .000
      [L/S/n=  280./ .050/.045]
      {Vmax=  .883:Dmax= 2.859}
R0010:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                 1.0 01:N_TO         54837.78    85.488 No_date   37:22    23.06  n/a     .000
      fname :N_TO.0010
      remark:Total inflows at Station 2462
#*****************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#*****************************************************************************
R0010:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD      1.0 01:corr1           15.87     2.113 No_date   28:01    48.23 .746     .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD          1.0 01:corr1           15.87     2.113 No_date   28:01    48.23  n/a     .000
     Major System   /        1.0 02:corr1-MJ          .00      .000 No_date    0:00      .00  n/a     .000
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     Minor System   \    1.0 03:corr1-MN      15.87    1.818 No_date   28:09   48.38  n/a     .000
      {MjSysSto=.8936E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:corr2         12.47     .209 No_date   29:11   26.85 .415     .000
      [CN= 77.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime= 12.00]
R0010:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A1-Corrig     15.75    1.640 No_date   28:02   40.97 .633     .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A1-Corrig     15.75    1.640 No_date   28:02   40.97  n/a     .000
     Major System   /    1.0 02:A1-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A1-MN         15.75    1.640 No_date   28:02   40.97  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    1.0 01:B1             2.77     .072 No_date   28:09   16.64 .257     .000
      [CN= 56.0: N= 3.00: Tp=  .23]
      [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
      [InterEventTime= 12.00]
R0010:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A4             1.27     .178 No_date   28:00   48.63 .752     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A4             1.27     .178 No_date   28:00   48.63  n/a     .000
     Major System   /    1.0 02:A4-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A4-MN          1.27     .178 No_date   28:00   48.63  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A1-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A1-MN         15.75    1.640 No_date   28:02   40.97  n/a     .000
                    +    1.0 02:corr1-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:corr1-MN      15.87    1.818 No_date   28:09   48.38  n/a     .000
                    +    1.0 02:corr2         12.47     .209 No_date   29:11   26.85  n/a     .000
                    +    1.0 02:B1             2.77     .072 No_date   28:09   16.64  n/a     .000
                    +    1.0 02:A4-MN          1.27     .178 No_date   28:00   48.63  n/a     .000
                 SUM=    1.0 01:MH101         48.13    3.734 No_date   28:02   38.56  n/a     .000
R0010:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH101         48.13    3.734 No_date   28:02   38.56  n/a     .000
      fname :MH101.0010
      remark:Total Flows at MH101
R0010:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:MH101         48.13    3.734 No_date   28:02   38.56  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:101-102       48.13    3.662 No_date   28:03   38.56  n/a     .000
      [L/S/n=  368./ .540/.013]
      {Vmax= 3.084:Dmax= 1.088}
      [Din= 1.05:Dused= 1.33}
R0010:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A2-MN         25.50    1.818 No_date   27:57   40.97  n/a     .000
                    +    1.0 02:101-102       48.13    3.662 No_date   28:03   38.56  n/a     .000
                 SUM=    1.0 01:MH102         73.63    5.480 No_date   28:03   39.39  n/a     .000
R0010:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH102         73.63    5.480 No_date   28:03   39.39  n/a     .000
      fname :MH102.0010
      remark:Total Flows at MH102
R0010:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A5             1.60     .236 No_date   28:01   51.11 .790     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A4-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A5             1.60     .236 No_date   28:01   51.11  n/a     .000
                 SUM=    1.0 01:A5T            1.60     .236 No_date   28:01   51.11  n/a     .000
R0010:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A5T            1.60     .236 No_date   28:01   51.11  n/a     .000
     Major System   /    1.0 02:A5-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A5-MN          1.60     .236 No_date   28:01   51.11  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:MH102         73.63    5.480 No_date   28:03   39.39  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:102-103       73.63    5.291 No_date   28:06   39.39  n/a     .000
      [L/S/n=  504./ .280/.013]
      {Vmax= 2.654:Dmax= 1.421}
      [Din= 1.50:Dused= 1.73}
R0010:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:102-103       73.63    5.291 No_date   28:06   39.39  n/a     .000
                    +    1.0 02:A5-MN          1.60     .236 No_date   28:01   51.11  n/a     .000
                 SUM=    1.0 01:MH103         75.23    5.462 No_date   28:05   39.64  n/a     .000
R0010:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH103         75.23    5.462 No_date   28:05   39.64  n/a     .000
      fname :MH103.0010
      remark:Total Flows at MH103
R0010:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:MH103         75.23    5.462 No_date   28:05   39.64  n/a     .000
     [RDT= 1.00] out<-   1.0 01:103-104       75.23    5.382 No_date   28:07   39.64  n/a     .000
      [L/S/n=  438./ .460/.013]
      {Vmax= 3.265:Dmax= 1.205}
      [Din= 1.65:Dused= 1.65}
R0010:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A6             1.56     .232 No_date   28:00   51.11 .790     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A5-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A6             1.56     .232 No_date   28:00   51.11  n/a     .000
                 SUM=    1.0 01:A6T            1.56     .232 No_date   28:00   51.11  n/a     .000
R0010:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A6T            1.56     .232 No_date   28:00   51.11  n/a     .000
     Major System   /    1.0 02:A6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A6-MN          1.56     .232 No_date   28:00   51.11  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A6-MN          1.56     .232 No_date   28:00   51.11  n/a     .000
                    +    1.0 02:103-104       75.23    5.382 No_date   28:07   39.64  n/a     .000
                    +    1.0 02:TODD_MJn      30.14    3.314 No_date   28:00   46.20  n/a     .000
                 SUM=    1.0 01:MH104        106.93    8.816 No_date   28:05   41.66  n/a     .000
R0010:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH104        106.93    8.816 No_date   28:05   41.66  n/a     .000
      fname :MH104.0010
      remark:Total Flows at MH104
R0010:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B2            12.31    1.229 No_date   28:02   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B2            12.31    1.229 No_date   28:02   41.19  n/a     .000
     Major System   /    1.0 02:B2-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B2-MN         12.31    1.029 No_date   27:58   41.28  n/a     .000
      {MjSysSto=.7604E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:B2-MN         12.31    1.029 No_date   27:58   41.28  n/a     .000
     [RDT= 1.00] out<-   1.0 01:315-333       12.31    1.019 No_date   28:12   41.28  n/a     .000
      [L/S/n=  254./ .100/.013]
      {Vmax= 1.220:Dmax=  .838}
      [Din= 1.20:Dused= 1.20}
R0010:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B3             5.59     .579 No_date   28:02   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B3             5.59     .579 No_date   28:02   41.19  n/a     .000
     Major System   /    1.0 02:B3-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B3-MN          5.59     .459 No_date   27:57   41.35  n/a     .000
      {MjSysSto=.4795E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:B3-MN          5.59     .459 No_date   27:57   41.35  n/a     .000
                    +    1.0 02:315-333       12.31    1.019 No_date   28:12   41.28  n/a     .000
                 SUM=    1.0 01:MH333         17.90    1.478 No_date   28:12   41.30  n/a     .000
R0010:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH333         17.90    1.478 No_date   28:12   41.30  n/a     .000
      fname :MH333.0010
      remark:Total Flows at MH333
R0010:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:MH333         17.90    1.478 No_date   28:12   41.30  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:333-335       17.90    1.450 No_date   28:14   41.30  n/a     .000
      [L/S/n=  251./ .100/.013]
      {Vmax= 1.300:Dmax= 1.054}
      [Din= 1.20:Dused= 1.28}
R0010:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:333-335       17.90    1.450 No_date   28:14   41.30  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:335-338       17.90    1.447 No_date   28:14   41.30  n/a     .000
      [L/S/n=  185./ .100/.013]
      {Vmax= 1.294:Dmax= 1.047}
      [Din= 1.20:Dused= 1.28}
R0010:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:335-338       17.90    1.447 No_date   28:14   41.30  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:338-340       17.90    1.418 No_date   28:15   41.30  n/a     .000
      [L/S/n=  233./ .100/.013]
      {Vmax= 1.325:Dmax=  .963}
      [Din= 1.35:Dused= 1.35}
R0010:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B4             7.60     .768 No_date   28:02   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B4             7.60     .768 No_date   28:02   41.19  n/a     .000
     Major System   /    1.0 02:B4-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B4-MN          7.60     .655 No_date   27:58   41.31  n/a     .000
      {MjSysSto=.3770E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:338-340       17.90    1.418 No_date   28:15   41.30  n/a     .000
                    +    1.0 02:B4-MN          7.60     .655 No_date   27:58   41.31  n/a     .000
                 SUM=    1.0 01:MH340         25.50    2.022 No_date   28:12   41.30  n/a     .000
R0010:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH340         25.50    2.022 No_date   28:12   41.30  n/a     .000
      fname :MH340.0010
      remark:Total Flows at MH340
R0010:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:MH340         25.50    2.022 No_date   28:12   41.30  n/a     .000
     [RDT= 1.00] out<-   1.0 01:340-104       25.50    1.986 No_date   28:12   41.30  n/a     .000
      [L/S/n=  240./ .150/.013]
      {Vmax= 1.706:Dmax=  .895}
      [Din= 1.65:Dused= 1.65}
R0010:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:340-104       25.50    1.986 No_date   28:12   41.30  n/a     .000
                    +    1.0 02:MH104        106.93    8.816 No_date   28:05   41.66  n/a     .000
                 SUM=    1.0 01:MH104T       132.43   10.636 No_date   28:05   41.59  n/a     .000
R0010:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:MH104T       132.43   10.636 No_date   28:05   41.59  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:104-105      132.43   10.007 No_date   28:06   41.59  n/a     .000
      [L/S/n=  380./ .100/.013]
      {Vmax= 2.071:Dmax= 1.952}
      {HGTH= 2.30:WDTH= 2.63}
R0010:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B5             2.20     .291 No_date   28:00   45.32 .701     .000
      [XIMP=.57:TIMP=.57]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B5             2.20     .291 No_date   28:00   45.32  n/a     .000
     Major System   /    1.0 02:B5-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B5-MN          2.20     .260 No_date   27:57   45.39  n/a     .000
      {MjSysSto=.6886E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A8              .96     .151 No_date   28:00   51.11 .790     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:A6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:A8              .96     .151 No_date   28:00   51.11  n/a     .000
                 SUM=    1.0 01:A8T             .96     .151 No_date   28:00   51.11  n/a     .000
R0010:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A8T             .96     .151 No_date   28:00   51.11  n/a     .000
     Major System   /    1.0 02:A8-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A8-MN           .96     .151 No_date   28:00   51.11  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:104-105      132.43   10.007 No_date   28:06   41.59  n/a     .000
                    +    1.0 02:B5-MN          2.20     .260 No_date   27:57   45.39  n/a     .000
                    +    1.0 02:A8-MN           .96     .151 No_date   28:00   51.11  n/a     .000
                    +    1.0 02:TODD_MN3j       .00     .000 No_date   28:00   44.90  n/a     .000
                 SUM=    1.0 01:MH105        135.59   10.343 No_date   28:05   41.72  n/a     .000
R0010:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH105        135.59   10.343 No_date   28:05   41.72  n/a     .000
      fname :MH105.0010
      remark:Total Flows at MH105
R0010:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *  DIVERT HYD     ->    1.0 01:A8-MJ           .00     .000 No_date    0:00     .00  n/a     .000
          diverted <=    1.0 02:A8-MJ-JR        .00     .000 No_date    0:00     .00  n/a     .000
          diverted <=    1.0 03:A8-MJ-B6        .00     .000 No_date    0:00     .00  n/a     .000
R0010:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    DIVERT HYD     ->    1.0 01:MH105        135.59   10.343 No_date   28:05   41.72  n/a     .000
          diverted <=    1.0 02:MH105-JR      28.70    7.335 No_date   28:05   41.72  n/a     .000
          diverted <=    1.0 03:MH105-B6     106.90    3.008 No_date   28:05   41.72  n/a     .000
R0010:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B7             7.19     .792 No_date   28:01   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:B4-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:B7             7.19     .792 No_date   28:01   41.19  n/a     .000
                 SUM=    1.0 01:B7-B4MJ        7.19     .792 No_date   28:01   41.19  n/a     .000
R0010:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B7-B4MJ        7.19     .792 No_date   28:01   41.19  n/a     .000
     Major System   /    1.0 02:B7R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B7R-MN         7.19     .629 No_date   27:55   41.31  n/a     .000
      {MjSysSto=.5641E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:B7R-MN         7.19     .629 No_date   27:55   41.31  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:360-106A       7.19     .628 No_date   28:11   41.31  n/a     .000
      [L/S/n=  167./ .100/.013]
      {Vmax= 1.089:Dmax=  .665}
      [Din= 1.05:Dused= 1.05}
R0010:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:B6             3.29     .376 No_date   28:00   41.19 .637     .000
      [XIMP=.41:TIMP=.54]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B6             3.29     .376 No_date   28:00   41.19  n/a     .000
     Major System   /    1.0 02:B6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B6-MN          3.29     .064 No_date   27:36   41.22  n/a     .000
      {MjSysSto=.3813E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:EX-LAND       32.50    3.367 No_date   28:02   41.86 .647     .000
      [XIMP=.50:TIMP=.50]
      [LOSS= 2 :CN= 74.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0010:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:EX-LAND       32.50    3.367 No_date   28:02   41.86  n/a     .000
     Major System   /    1.0 02:EX-LAND-MJ      .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:EX-LAND-MN    32.50    2.275 No_date   27:55   41.99  n/a     .000
      {MjSysSto=.5949E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:B7R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:EX-LAND-MJ      .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:B5-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:B6-MJ           .00     .000 No_date    0:00     .00  n/a     .000
                    +    1.0 02:B6-MN          3.29     .064 No_date   27:36   41.22  n/a     .000
                    +    1.0 02:A8-MJ-B6        .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:B6-B7ExMJ      3.29     .064 No_date   27:36   41.22  n/a     .000
R0010:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:B6-B7ExMJ      3.29     .064 No_date   27:36   41.22  n/a     .000
     Major System   /    1.0 02:B6R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:B6R-MN         3.29     .064 No_date   27:36   41.22  n/a     .000
      {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=     0.hrs}
R0010:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:MH105-B6     106.90    3.008 No_date   28:05   41.72  n/a     .000
     [RDT= 1.00] out<-   1.0 01:105-106A     106.90    3.006 No_date   28:12   41.72  n/a     .000
      [L/S/n=  208./ .100/.013]
      {Vmax= 1.597:Dmax= 1.249}
      [Din= 1.80:Dused= 1.80}
R0010:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:360-106A       7.19     .628 No_date   28:11   41.31  n/a     .000
                    +    1.0 02:105-106A     106.90    3.006 No_date   28:12   41.72  n/a     .000
                    +    1.0 02:B6R-MN         3.29     .064 No_date   27:36   41.22  n/a     .000
                    +    1.0 02:B6R-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                 SUM=    1.0 01:MH106A       117.38    3.698 No_date   28:11   41.68  n/a     .000
R0010:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH106A       117.38    3.698 No_date   28:11   41.68  n/a     .000
      fname :MH106A.0010
      remark:Total Flows at MH106A
R0010:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE     ->    1.0 02:MH106A       117.38    3.698 No_date   28:11   41.68  n/a     .000
 *   [RDT= 1.00] out<-   1.0 01:106A-106     117.38    3.659 No_date   28:06   41.68  n/a     .000
      [L/S/n=  190./ .100/.013]
      {Vmax= 1.635:Dmax= 1.487}
      [Din= 1.80:Dused= 1.81}
R0010:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD  1.0 01:A9             2.44     .365 No_date   28:00   51.11 .790     .000
      [XIMP=.71:TIMP=.71]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD      1.0 01:A9             2.44     .365 No_date   28:00   51.11  n/a     .000
     Major System   /    1.0 02:A9-MJ           .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \    1.0 03:A9-MN          2.44     .365 No_date   28:00   51.11  n/a     .000
R0010:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD              1.0 02:106A-106     117.38    3.659 No_date   28:06   41.68  n/a     .000
                    +    1.0 02:A9-MN          2.44     .365 No_date   28:00   51.11  n/a     .000
                 SUM=    1.0 01:MH106        119.82    3.992 No_date   28:02   41.87  n/a     .000
R0010:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD             1.0 01:MH106        119.82    3.992 No_date   28:02   41.87  n/a     .000
      fname :MH106.0010
```

```
        remark:Total Flows at MH106
R0010:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH106          119.82      3.992 No_date   28:02   41.87  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:106-107        119.82      3.962 No_date   28:03   41.87  n/a     .000
        [L/S/n=  123./ .100/.013]
        {Vmax= 1.666:Dmax= 1.530}
        [Din= 1.80:Dused= 1.86}
R0010:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A10               4.14       .416 No_date   28:01   38.46 .595     .000
        [XIMP=.35:TIMP=.47]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A10             4.14       .416 No_date   28:01   38.46  n/a     .000
      Major System   /       1.0 02:A10-MJ           .00       .000 No_date    0:00     .00  n/a     .000
      Minor System   \       1.0 03:A10-MN          4.14       .310 No_date   27:55   38.48  n/a     .000
        {MjSysSto=.4172E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A11              10.61      1.251 No_date   28:01   45.36 .701     .000
        [XIMP=.53:TIMP=.62]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00404------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A11            10.61      1.251 No_date   28:01   45.36  n/a     .000
      Major System   /       1.0 02:A11-MJ           .00       .000 No_date    0:00     .00  n/a     .000
      Minor System   \       1.0 03:A11-MN         10.61       .993 No_date   27:56   45.38  n/a     .000
        {MjSysSto=.1016E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00405------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:106-107       119.82      3.962 No_date   28:03   41.87  n/a     .000
                       +     1.0 02:A10-MN          4.14       .310 No_date   27:55   38.48  n/a     .000
                       +     1.0 02:A11-MN         10.61       .993 No_date   27:56   45.38  n/a     .000
                    SUM=     1.0 01:MH107         134.57      5.265 No_date   28:03   42.04  n/a     .000
R0010:C00406------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH107         134.57      5.265 No_date   28:03   42.04  n/a     .000
        fname :MH107.0010
        remark:Total Flows at MH107
R0010:C00407------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH107         134.57      5.265 No_date   28:03   42.04  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:107-119       134.57      5.251 No_date   28:05   42.04  n/a     .000
        [L/S/n=  114./ .120/.013]
        {Vmax= 1.912:Dmax= 1.640}
        [Din= 1.80:Dused= 2.00}
R0010:C00408------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:107-119       134.57      5.251 No_date   28:05   42.04  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:119-108       134.57      5.248 No_date   28:06   42.04  n/a     .000
        [L/S/n=   66./ .120/.013]
        {Vmax= 1.911:Dmax= 1.639}
        [Din= 1.80:Dused= 2.00}
R0010:C00409------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A12              12.29      1.385 No_date   28:01   41.19 .637     .000
        [XIMP=.41:TIMP=.54]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00410------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A12            12.29      1.385 No_date   28:01   41.19  n/a     .000
      Major System   /       1.0 02:A12-MJ           .00       .000 No_date    0:00     .00  n/a     .000
      Minor System   \       1.0 03:A12-MN         12.29      1.029 No_date   27:54   41.27  n/a     .000
        {MjSysSto=.1401E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00411------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A13               2.59       .368 No_date   28:01   51.11 .790     .000
        [XIMP=.71:TIMP=.71]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00412------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A13             2.59       .368 No_date   28:01   51.11  n/a     .000
      Major System   /       1.0 02:A13-MJ           .00       .000 No_date    0:00     .00  n/a     .000
      Minor System   \       1.0 03:A13-MN          2.59       .368 No_date   28:01   51.11  n/a     .000
R0010:C00413------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Pond-Block        2.94       .309 No_date   28:00   38.90 .601     .000
        [XIMP=.41:TIMP=.41]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0010:C00414------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:119-108       134.57      5.248 No_date   28:06   42.04  n/a     .000
                       +     1.0 02:A13-MN          2.59       .368 No_date   28:01   51.11  n/a     .000
                       +     1.0 02:A12-MN         12.29      1.029 No_date   27:54   41.27  n/a     .000
                    SUM=     1.0 01:MH108         149.45      6.598 No_date   28:04   42.14  n/a     .000
R0010:C00415------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH108         149.45      6.598 No_date   28:04   42.14  n/a     .000
        fname :MH108.0010
        remark:Total Flows at MH108
R0010:C00416------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH108         149.45      6.598 No_date   28:04   42.14  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:108-116       149.45      6.590 No_date   28:05   42.14  n/a     .000
        [L/S/n=   77./ .130/.013]
        {Vmax= 2.085:Dmax= 1.759}
        [Din= 1.80:Dused= 2.14}
R0010:C00417------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:108-116       149.45      6.590 No_date   28:05   42.14  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:116-corrig    149.45      6.577 No_date   28:06   42.14  n/a     .000
        [L/S/n=   80./ .130/.013]
        {Vmax= 2.084:Dmax= 1.758}
        [Din= 1.80:Dused= 2.14}
R0010:C00418------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:116-corrig    149.45      6.577 No_date   28:06   42.14  n/a     .000
                       +     1.0 02:Pond-Block      2.94       .309 No_date   28:00   38.90  n/a     .000
                    SUM=     1.0 01:Corrigan      152.39      6.779 No_date   28:05   42.08  n/a     .000
R0010:C00419------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:Corrigan      152.39      6.779 No_date   28:05   42.08  n/a     .000
        fname :Corrigan.0010
        remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0010:C00420------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:Corrigan      152.39      6.779 No_date   28:05   42.08  n/a     .000
                  out <=     1.0 01:Co-P          152.39      6.100 No_date   28:15   42.07  n/a     .000
             overflow <=     1.0 03:Co-P-OVF         .00       .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.1015E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00421------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:Co-P-OVF         .00       .000 No_date    0:00     .00  n/a     .000
                       +     1.0 02:Co-P          152.39      6.100 No_date   28:15   42.07  n/a     .000
                       +     1.0 02:N_TO        54837.78     85.488 No_date   37:22   23.06  n/a     .000
                       +     1.0 02:MH105-JR       28.70      7.335 No_date   28:05   41.72  n/a     .000
                       +     1.0 02:A8-MJ-JR         .00       .000 No_date    0:00     .00  n/a     .000
                       +     1.0 02:A9-MJ            .00       .000 No_date    0:00     .00  n/a     .000
                       +     1.0 02:A10-MJ           .00       .000 No_date    0:00     .00  n/a     .000
                       +     1.0 02:A11-MJ           .00       .000 No_date    0:00     .00  n/a     .000
                       +     1.0 02:A12-MJ           .00       .000 No_date    0:00     .00  n/a     .000
                       +     1.0 02:A13-MJ           .00       .000 No_date    0:00     .00  n/a     .000
                    SUM=     1.0 01:corrig      55018.86     85.837 No_date   37:21   23.12  n/a     .000
R0010:C00422------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:corrig      55018.86     85.837 No_date   37:21   23.12  n/a     .000
        fname :corrig.0010
        remark:Total Flows at Corrigan Pond
#****************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#****************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0010:C00423------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:corrig      55018.86     85.837 No_date   37:21   23.12  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_MI        55018.86     85.828 No_date   37:24   23.12  n/a     .000
        [L/S/n=  580./ .445/.045]
        {Vmax= 1.788:Dmax= 1.629}
#****************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#****************************************************************************
R0010:C00424------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:MILLS           175.99     12.212 No_date   28:07   36.76 .568     .000
        [XIMP=.38:TIMP=.38]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#****************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#****************************************************************************
R0010:C00425------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:MILLS         175.99     12.212 No_date   28:07   36.76  n/a     .000
                  out <=     1.0 01:MILL_P        175.99      4.030 No_date   28:43   36.76  n/a     .000
             overflow <=     1.0 03:MIL-OV           .00       .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.2299E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00426------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_MI        55018.86     85.828 No_date   37:24   23.12  n/a     .000
                       +     1.0 02:MIL-OV           .00       .000 No_date    0:00     .00  n/a     .000
                       +     1.0 02:MILL_P        175.99      4.030 No_date   28:43   36.76  n/a     .000
                    SUM=     1.0 01:SN_MI       55194.85     86.233 No_date   37:23   23.16  n/a     .000
R0010:C00427------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_MI       55194.85     86.233 No_date   37:23   23.16  n/a     .000
        fname :SN_MI.0010
        remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0010:C00428------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:SN_MI       55194.85     86.233 No_date   37:23   23.16  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_DE        55194.85     86.067 No_date   37:44   23.16  n/a     .000
        [L/S/n= 1962./ .223/.045]
        {Vmax= 1.393:Dmax= 2.071}
#****************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#****************************************************************************
R0010:C00429------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:DESIRE           23.78      1.694 No_date   28:03   32.93 .509     .000
        [XIMP=.25:TIMP=.25]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
#****************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#****************************************************************************
R0010:C00430------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JOCKVA          225.13     17.670 No_date   28:08   41.86 .647     .000
        [XIMP=.50:TIMP=.50]
        [LOSS= 2 :CN= 74.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0010:C00431------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:EX-LAND-MN     32.50      2.275 No_date   27:55   41.99  n/a     .000
                       +     1.0 02:JOCKVA        225.13     17.670 No_date   28:08   41.86  n/a     .000
                       +     1.0 02:B2-MJ            .00       .000 No_date    0:00     .00  n/a     .000
                       +     1.0 02:B3-MJ            .00       .000 No_date    0:00     .00  n/a     .000
                    SUM=     1.0 01:JOCKVA-TO     257.63     19.945 No_date   28:08   41.88  n/a     .000
R0010:C00432------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:JOCKVA-TO     257.63     19.945 No_date   28:08   41.88  n/a     .000
        fname :JOCKVA-TO.0010
        remark:Total Flows at KB first pond
#****************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#****************************************************************************
R0010:C00433------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:JOCKVA-TO     257.63     19.945 No_date   28:08   41.88  n/a     .000
                  out <=     1.0 01:JOCK_P        257.63      6.542 No_date   28:42   41.88  n/a     .000
             overflow <=     1.0 03:JO-OVF           .00       .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.4673E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0010:C00434------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_DE        55194.85     86.067 No_date   37:44   23.16  n/a     .000
                       +     1.0 02:DESIRE         23.78      1.694 No_date   28:03   32.93  n/a     .000
                       +     1.0 02:JO-OVF           .00       .000 No_date    0:00     .00  n/a     .000
                       +     1.0 02:JOCK_P        257.63      6.542 No_date   28:42   41.88  n/a     .000
                    SUM=     1.0 01:SN_DE       55476.26     86.690 No_date   37:37   23.26  n/a     .000
R0010:C00435------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_DE       55476.26     86.690 No_date   37:37   23.26  n/a     .000
        fname :SN_DE.0010
        remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0010:C00436------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:SN_DE       55476.26     86.690 No_date   37:37   23.26  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N1          55476.26     86.683 No_date   37:44   23.25  n/a     .000
        [L/S/n=  563./ .967/.045]
        {Vmax= 1.789:Dmax= 1.038}
#****************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#****************************************************************************
R0010:C00437------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-2             102.94      2.957 No_date   28:20   23.57 .364     .000
        [CN= 72.0: N= 3.00: Tp=  .40]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0010:C00438------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N1          55476.26     86.683 No_date   37:44   23.25  n/a     .000
                       +     1.0 02:S-2           102.94      2.957 No_date   28:20   23.57  n/a     .000
                    SUM=     1.0 01:SN_N1       55579.20     86.846 No_date   37:44   23.26  n/a     .000
R0010:C00439------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_N1       55579.20     86.846 No_date   37:44   23.26  n/a     .000
        fname :SN_N1.0010
        remark:Total Flows at Rideau River
##############################################################################
  ** END OF RUN :   24

*****************************************************************************************





 RUN#:COMMAND#
R0025:C00001----------------------------------------------------------------------------
      START
        [TZERO =    .00 hrs on        0]
        [METOUT=   2    (1=imperial, 2=metric output)]
        [NSTORM=   1 ]
        [NRUN  = 0025 ]
#****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#****************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [M M]
#  Company       : JFSAinc.
#  License #     :  2549237
#****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 % (as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 % (as per St
# --------------------------------------------------------------------------
R0025:C00002----------------------------------------------------------------------------
      READ STORM
        Filename = storm.001
        Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
        [SDT=10.00:SDUR=  24.00:PTOT=  74.39]
R0025:C00003----------------------------------------------------------------------------
      MODIFY STORM
        [RFACT=  1.00:TSHIFT= 960.00 min]
        [SDT=10.00:SDUR=  40.00:PTOT=  74.39]
R0025:C00004----------------------------------------------------------------------------
      DEFAULT VALUES
        Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
        ICASEdv  = 1 (read and print data)
        FileTitle= File comment: [Based onvarious calibration exercises in Onta
                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
        Horton's infiltration equation parameters:
        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
        Parameters for PERVIOUS surfaces in STANDHYD:
        [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
        Parameters for IMPERVIOUS surfaces in STANDHYD:
        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
        Parameters used in NASHYD:
        [Ia=   4.67 mm] [N= 3.00]
        Average monthly Pan Evaporation data in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
        Average monthly Potential Evapotranspiration in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0025:C00005----------------------------------------------------------------------------
      COMPUTE API
        [APIini= 50.00:  APIkdy= .8500:  APIkdt= .9989]
        {APImax=106.76:  APIavg= 65.09:  APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_HW          3680.00     15.500 No_date   36:57   25.80 .347     .000
        [CN= 64.0: N= 3.00: Tp= 7.13]
        [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_13           971.00      5.778 No_date   32:34   24.02 .323     .000
        [CN= 61.0: N= 3.00: Tp= 3.76]
        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_GWM         3074.00      7.521 No_date   39:59   20.65 .278     .000
        [CN= 55.0: N= 3.00: Tp=11.33]
        [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
        [InterEventTime=  12.00]
R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_ASH         1781.00     14.166 No_date   32:40   31.50 .423     .000
        [CN= 72.0: N= 3.00: Tp= 3.91]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_11           500.00      7.521 No_date   29:22   27.01 .363     .000
```

```
          [CN= 66.0: N= 3.00: Tp= 1.24]
          [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:NN_CK        1917.00   10.351 No_date   34:27   27.01 .363     .000
          [CN= 66.0: N= 3.00: Tp= 5.29]
          [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_10        5666.00   27.457 No_date   37:54   31.50 .423     .000
          [CN= 72.0: N= 3.00: Tp= 8.00]
          [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:KG_CK        8376.00   26.276 No_date   39:59   27.01 .363     .000
          [CN= 66.0: N= 3.00: Tp=11.66]
          [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_9         1132.00   11.752 No_date   30:54   30.18 .406     .000
          [CN= 70.0: N= 3.00: Tp= 2.51]
          [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:NC_CK        4464.00   13.075 No_date   39:59   24.61 .331     .000
          [CN= 62.0: N= 3.00: Tp=11.32]
          [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_8          131.00    2.266 No_date   28:57   25.20 .339     .000
          [CN= 63.0: N= 3.00: Tp=  .90]
          [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:HB_DR        3854.00   15.333 No_date   38:34   27.01 .363     .000
          [CN= 66.0: N= 3.00: Tp= 8.42]
          [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_7         3197.00   11.663 No_date   36:24   21.75 .292     .000
          [CN= 57.0: N= 3.00: Tp= 6.65]
          [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_6          165.00    1.076 No_date   33:03   27.63 .371     .000
          [CN= 67.0: N= 3.00: Tp= 4.18]
          [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:VG_DR        1332.00    7.882 No_date   35:14   31.50 .423     .000
          [CN= 72.0: N= 3.00: Tp= 5.95]
          [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
          [InterEventTime=  12.00]
R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_5          224.00    6.882 No_date   28:45   35.66 .479     .000
          [CN= 77.0: N= 3.00: Tp=  .75]
          [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:FL_CK        4945.00   37.664 No_date   33:18   32.85 .442     .000
          [CN= 74.0: N= 3.00: Tp= 4.45]
          [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
          [InterEventTime=  12.00]
R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_5A2          20.00     .798 No_date   28:35   39.36 .529     .000
          [CN= 81.0: N= 3.00: Tp=  .62]
          [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
          [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_5A1       1412.00    7.480 No_date   37:50   34.24 .460     .000
          [CN= 75.0: N= 3.00: Tp= 8.00]
          [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
          [InterEventTime=  12.00]
R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_4          585.00   10.942 No_date   29:56   39.36 .529     .000
          [CN= 81.0: N= 3.00: Tp= 1.75]
          [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
          [InterEventTime=  12.00]
R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:LM_CK        1021.00   14.476 No_date   30:46   38.60 .519     .000
          [CN= 80.0: N= 3.00: Tp= 2.46]
          [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
          [InterEventTime=  12.00]
R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SW_2          177.00    5.438 No_date   28:45   35.66 .479     .000
          [CN= 77.0: N= 3.00: Tp=  .75]
          [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
          [InterEventTime=  12.00]
R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:SM_DR        1122.00   13.229 No_date   31:45   39.36 .529     .000
          [CN= 81.0: N= 3.00: Tp= 3.25]
          [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
          [InterEventTime=  12.00]
R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:MD_DR        2737.00   29.508 No_date   31:30   34.94 .470     .000
          [CN= 76.0: N= 3.00: Tp= 3.03]
          [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
          [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:JR_HW        3680.00   15.500 No_date   36:56   25.80  n/a     .000
                        +    1.0 02:SW_13         971.00    5.778 No_date   32:34   24.02  n/a     .000
                     SUM=    1.0 01:S_N13        4651.00   19.777 No_date   35:26   25.42  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:S_N13        4651.00   19.777 No_date   35:26   25.42  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N13A         4651.00   15.935 No_date   39:17   25.42  n/a     .000
          [L/S/n= 9074./ .022/.040]
          {Vmax=  .548:Dmax= 3.659}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N13A         4651.00   15.935 No_date   39:17   25.42  n/a     .000
                        +    1.0 02:JR_GWM       3074.00    7.521 No_date   39:59   20.65  n/a     .000
                     SUM=    1.0 01:SN13A        7725.00   23.402 No_date   39:59   23.52  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:SN13A        7725.00   23.402 No_date   39:59   23.52  n/a     .000
                  out <=     1.0 01:RES_GM       7725.00    3.678 No_date   60:27   23.52  n/a     .000
        {MxStoUsed=.1192E+03  m3}
#
R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:RES_GM       7725.00    3.678 No_date   60:27   23.52  n/a     .000
          fname :H_RESGM
          remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:RES_GM       7725.00    3.678 No_date   60:27   23.52  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N12          7725.00    3.675 No_date   63:05   23.52  n/a     .000
          [L/S/n= 5926./ .076/.040]
          {Vmax=  .552:Dmax= 1.524}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0025:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N12          7725.00    3.675 No_date   63:05   23.52  n/a     .000
                        +    1.0 02:JR_ASH       1781.00   14.166 No_date   32:40   31.50  n/a     .000
                     SUM=    1.0 01:S_N12        9506.00   16.182 No_date   32:43   25.02  n/a     .000
R0025:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:S_N12        9506.00   16.182 No_date   32:43   25.02  n/a     .000
          fname :H_SN12
          remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0025:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:S_N12        9506.00   16.182 No_date   32:43   25.02  n/a     .000
        [RDT= 1.00] out<-    1.0 01:Dum11        9506.00   16.007 No_date   33:02   25.02  n/a     .000
          [L/S/n=  972./ .054/.040]
          {Vmax=  .721:Dmax= 2.847}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0025:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:Dum11        9506.00   16.007 No_date   33:02   25.02  n/a     .000
                        +    1.0 02:SW_11         500.00    7.521 No_date   29:22   27.01  n/a     .000
                        +    1.0 02:NN_CK        1917.00   10.351 No_date   34:27   27.01  n/a     .000
                     SUM=    1.0 01:S_N11       11923.00   27.908 No_date   33:04   25.42  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0025:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:S_N11       11923.00   27.908 No_date   33:04   25.42  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N10         11923.00   18.039 No_date   40:01   25.42  n/a     .000
          [L/S/n=14028./ .157/.040]
          {Vmax=  .464:Dmax= 1.329}
#
# Addition of Subwatershed 10 to Node 10
#
R0025:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N10         11923.00   18.039 No_date   40:01   25.42  n/a     .000
                        +    1.0 02:SW_10        5666.00   27.457 No_date   37:54   31.50  n/a     .000
                     SUM=    1.0 01:S_N10       17589.00   45.026 No_date   38:35   27.38  n/a     .000
R0025:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:S_N10       17589.00   45.026 No_date   38:35   27.38  n/a     .000
          fname :H_SN10
          remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0025:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:S_N10       17589.00   45.026 No_date   38:35   27.38  n/a     .000
                        +    1.0 02:KG_CK        8376.00   26.276 No_date   39:59   27.01  n/a     .000
                     SUM=    1.0 01:S_N10A      25965.00   70.812 No_date   39:59   27.26  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0025:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:S_N10A      25965.00   70.812 No_date   39:59   27.26  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N9          25965.00   69.032 No_date   39:59   27.26  n/a     .000
          [L/S/n= 3982./ .075/.040]
          {Vmax=  .718:Dmax= 1.889}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0025:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N9          25965.00   69.032 No_date   39:59   27.26  n/a     .000
                        +    1.0 02:SW_9         1132.00   11.752 No_date   30:54   30.18  n/a     .000
                        +    1.0 02:NC_CK        4464.00   13.075 No_date   39:59   24.61  n/a     .000
                     SUM=    1.0 01:S_N9        31561.00   84.684 No_date   39:59   26.99  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0025:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:S_N9        31561.00   84.684 No_date   39:59   26.99  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N8          31561.00   79.245 No_date   39:59   26.99  n/a     .000
          [L/S/n= 2269./ .088/.045]
          {Vmax=  .363:Dmax= 1.743}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0025:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N8          31561.00   79.245 No_date   39:59   26.99  n/a     .000
                        +    1.0 02:SW_8          131.00    2.266 No_date   28:57   25.20  n/a     .000
                        +    1.0 02:HB_DR        3854.00   15.333 No_date   38:34   27.01  n/a     .000
                     SUM=    1.0 01:S_N8        35546.00   94.597 No_date   39:59   26.99  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0025:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:S_N8        35546.00   94.597 No_date   39:59   26.99  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N7          35546.00   80.337 No_date   45:08   26.98  n/a     .000
          [L/S/n= 3750./ .053/.070]
          {Vmax=  .226:Dmax= 2.161}
#
# Addition of Subwatershed 7 to Node 7
#
R0025:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N7          35546.00   80.337 No_date   45:08   26.98  n/a     .000
                        +    1.0 02:SW_7         3197.00   11.663 No_date   36:24   21.75  n/a     .000
                     SUM=    1.0 01:S_N7        38743.00   86.331 No_date   44:08   26.55  n/a     .000
R0025:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:S_N7        38743.00   86.331 No_date   44:08   26.55  n/a     .000
          fname :H_SN7
          remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:S_N7        38743.00   86.331 No_date   44:08   26.55  n/a     .000
                  out <=     1.0 01:RES_RF      38743.00   42.032 No_date   60:05   26.55  n/a     .000
        {MxStoUsed=.3671E+03  m3}
R0025:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:RES_RF      38743.00   42.032 No_date   60:05   26.55  n/a     .000
          fname :H_ResRF
          remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0025:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:RES_RF      38743.00   42.032 No_date   60:05   26.55  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N6          38743.00   41.826 No_date   61:26   26.55  n/a     .000
          [L/S/n= 3056./ .082/.025]
          {Vmax=  .514:Dmax= 1.120}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0025:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N6          38743.00   41.826 No_date   61:26   26.55  n/a     .000
                        +    1.0 02:SW_6          165.00    1.076 No_date   33:03   27.63  n/a     .000
                        +    1.0 02:VG_DR        1332.00    7.882 No_date   35:14   31.50  n/a     .000
                     SUM=    1.0 01:S_N6        40240.01   41.832 No_date   61:20   26.72  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0025:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:S_N6        40240.01   41.832 No_date   61:20   26.72  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N5          40240.01   41.717 No_date   62:14   26.72  n/a     .000
          [L/S/n= 1852./ .054/.035]
          {Vmax=  .444:Dmax= 1.222}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0025:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N5          40240.01   41.717 No_date   62:14   26.72  n/a     .000
                        +    1.0 02:SW_5          224.00    6.882 No_date   28:45   35.66  n/a     .000
                        +    1.0 02:FL_CK        4945.00   37.664 No_date   33:18   32.85  n/a     .000
                     SUM=    1.0 01:S_N5        45409.01   62.634 No_date   34:27   27.43  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0025:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:S_N5        45409.01   62.634 No_date   34:27   27.43  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N5A         45409.01   62.487 No_date   34:43   27.43  n/a     .000
          [L/S/n=  556./ .090/.040]
          {Vmax=  .511:Dmax= 1.222}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0025:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N5A         45409.01   62.487 No_date   34:43   27.43  n/a     .000
                        +    1.0 02:SW_5A2         20.00     .798 No_date   28:35   39.36  n/a     .000
                        +    1.0 02:SW_5A1       1412.00    7.480 No_date   37:50   34.24  n/a     .000
                     SUM=    1.0 01:S_N5A       46841.01   69.334 No_date   35:01   27.64  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0025:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ROUTE CHANNEL   ->     1.0 02:S_N5A       46841.01   69.334 No_date   35:01   27.64  n/a     .000
        [RDT= 1.00] out<-    1.0 01:N4          46841.01   66.496 No_date   36:27   27.64  n/a     .000
          [L/S/n= 4630./ .043/.035]
          {Vmax=  .840:Dmax= 3.530}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0025:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:N4          46841.01   66.496 No_date   36:27   27.64  n/a     .000
                        +    1.0 02:SW_4          585.00   10.942 No_date   29:56   39.36  n/a     .000
                        +    1.0 02:LM_CK        1021.00   14.476 No_date   30:46   38.60  n/a     .000
                     SUM=    1.0 01:S_N4        48447.00   73.819 No_date   35:41   28.02  n/a     .000
```

```
R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N4       48447.00   73.819 No_date   35:41   28.02  n/a     .000
      fname :S_N4.0025
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N4       48447.00   73.819 No_date   35:41   28.02  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N2         48447.00   73.485 No_date   35:42   28.02  n/a     .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .874:Dmax= 3.570}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N2         48447.00   73.485 No_date   35:42   28.02  n/a     .000
                      +    1.0 02:SW_2         177.00    5.438 No_date   28:45   35.66  n/a     .000
                      +    1.0 02:SM_DR       1122.00   13.229 No_date   31:45   39.36  n/a     .000
                      +    1.0 02:MD_DR       2737.00   29.508 No_date   31:30   34.94  n/a     .000
                   SUM=    1.0 01:S_N2       52483.00  106.109 No_date   33:07   28.64  n/a     .000
R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:S_N2       52483.00  106.109 No_date   33:07   28.64  n/a     .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#*****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:S_N2       52483.00  106.109 No_date   33:07   28.64  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_416      52483.00  103.234 No_date   34:03   28.64  n/a     .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .754:Dmax= 3.305}
#*****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#*****************************************************************************
R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:SW_1a        536.42    5.154 No_date   31:16   30.13 .405     .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:S-1-Okeefe    44.93    6.507 No_date   28:03   57.38 .771     .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD        1.0 01:S-1-Okeefe    44.93    6.507 No_date   28:03   57.38  n/a     .000
     Major System   /      1.0 02:S-1-OkMJ        .00     .000 No_date    0:00     .00  n/a     .000
     Minor System   \      1.0 03:S-1-OkMN      44.93    4.591 No_date   27:56   57.68  n/a     .000
      {MjSysSto=.1037E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:S-1-OkMJ        .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:S-1-OkMN      44.93    4.591 No_date   27:56   57.68  n/a     .000
                   SUM=    1.0 01:S-1-OkS       44.93    4.591 No_date   27:56   57.68  n/a     .000
R0025:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:S-1-OkS       44.93    4.591 No_date   27:56   57.68  n/a     .000
                 out <=    1.0 01:S-1-OkSR      44.93     .467 No_date   29:26   57.68  n/a     .000
            overflow <=    1.0 03:S-1-OkSovf      .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.1559E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:N_416      52483.00  103.234 No_date   34:03   28.64  n/a     .000
                      +    1.0 02:SW_1a        536.42    5.154 No_date   31:16   30.13  n/a     .000
                      +    1.0 02:S-1-OkSR      44.93     .467 No_date   29:26   57.68  n/a     .000
                      +    1.0 02:S-1-OkSovf      .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:SN_416     53064.36  107.436 No_date   33:26   28.68  n/a     .000
R0025:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SN_416     53064.36  107.436 No_date   33:26   28.68  n/a     .000
      fname :SN_416.0025
      remark:Total Flows at Highway 416 before Station 7245
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0025:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:SN_416     53064.36  107.436 No_date   33:26   28.68  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_OK       53064.36  107.360 No_date   33:27   28.68  n/a     .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.569:Dmax= 2.814}
#*****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#*****************************************************************************
R0025:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-1           63.72     .937 No_date   28:58   22.21 .299     .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
R0025:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:O-1           63.72     .937 No_date   28:58   22.21  n/a     .000
     [RDT= 1.00] out<-     1.0 01:O-1R          63.72     .877 No_date   29:15   22.21  n/a     .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .829:Dmax=  .398}
R0025:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-2           28.61     .330 No_date   29:13   20.55 .276     .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
R0025:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-4           46.94     .426 No_date   29:00   15.62 .210     .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime=  12.00]
R0025:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:O-1R          63.72     .877 No_date   29:15   22.21  n/a     .000
                      +    1.0 02:O-2           28.61     .330 No_date   29:13   20.55  n/a     .000
                      +    1.0 02:O-4           46.94     .426 No_date   29:00   15.62  n/a     .000
                   SUM=    1.0 01:OKF-N        139.27    1.623 No_date   29:11   19.65  n/a     .000
R0025:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:OKF-N        139.27    1.623 No_date   29:11   19.65  n/a     .000
     [RDT= 1.00] out<-     1.0 01:OKF-NR       139.27    1.620 No_date   29:14   19.65  n/a     .000
      [L/S/n=  210./ .810/.043]
      {Vmax=  .998:Dmax=  .685}
R0025:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-6           16.46     .143 No_date   28:45   13.49 .181     .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime=  12.00]
R0025:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:O-3           39.67    1.013 No_date   28:23   24.45 .329     .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0025:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:O-5           60.63    2.500 No_date   28:10   28.05 .377     .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0025:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:OKF-NR       139.27    1.620 No_date   29:14   19.65  n/a     .000
                      +    1.0 02:O-3           39.67    1.013 No_date   28:23   24.45  n/a     .000
                      +    1.0 02:O-5           60.63    2.500 No_date   28:10   28.05  n/a     .000
                      +    1.0 02:O-6           16.46     .143 No_date   28:45   13.49  n/a     .000
                   SUM=    1.0 01:PT1          256.03    4.071 No_date   28:22   21.98  n/a     .000
R0025:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-7            5.28     .078 No_date   28:37   18.08 .243     .000
      [CN= 54.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
      [InterEventTime=  12.00]
R0025:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:PT1          256.03    4.071 No_date   28:22   21.98  n/a     .000
                      +    1.0 02:O-7            5.28     .078 No_date   28:37   18.08  n/a     .000
                   SUM=    1.0 01:FF           261.31    4.141 No_date   28:22   21.91  n/a     .000
R0025:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:FF           261.31    4.141 No_date   28:22   21.91  n/a     .000
     [RDT= 1.00] out<-     1.0 01:DRAIN1       261.31    4.014 No_date   28:28   21.91  n/a     .000
      [L/S/n=  302./1.000/.043]
      {Vmax=  .793:Dmax=  .719}
R0025:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D1             1.17     .078 No_date   28:12   37.38 .502     .000
      [CN= 84.0: N= 3.00: Tp=  .28]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0025:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A1             2.50     .464 No_date   28:01   58.43 .785     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:A1             2.50     .464 No_date   28:01   58.43  n/a     .000
                 out <=    1.0 01:A1-STR         2.50     .117 No_date   28:22   58.43  n/a     .000
            overflow <=    1.0 03:A1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.6660E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:ST-2            .59     .091 No_date   28:00   45.54 .612     .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:ST-2            .59     .091 No_date   28:00   45.54  n/a     .000
                 out <=    1.0 01:ST2STR          .59     .052 No_date   28:07   45.54  n/a     .000
            overflow <=    1.0 03:ST2OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.2899E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:O-8           60.55    1.147 No_date   29:04   28.63 .385     .000
      [CN= 69.0: N= 3.00: Tp= 1.00]
      [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
      [InterEventTime=  12.00]
R0025:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE PIPE      ->     1.0 02:O-8           60.55    1.147 No_date   29:04   28.63  n/a     .000
     [RDT= 1.00] out<-     1.0 01:O8PIPE        60.55    1.141 No_date   29:08   28.63  n/a     .000
      [L/S/n=  335./ .100/.013]
      {Vmax= 1.178:Dmax=  .540}
      {HGTH= 1.20:WDTH= 1.80}
R0025:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:DRAIN1       261.31    4.014 No_date   28:28   21.91  n/a     .000
                      +    1.0 02:D1             1.17     .078 No_date   28:12   37.38  n/a     .000
                      +    1.0 02:A1-STR         2.50     .117 No_date   28:22   58.43  n/a     .000
                      +    1.0 02:A1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:ST2STR          .59     .052 No_date   28:07   45.54  n/a     .000
                      +    1.0 02:ST2OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:O8PIPE        60.55    1.141 No_date   29:08   28.63  n/a     .000
                   SUM=    1.0 01:ST2-IN       326.12    5.017 No_date   28:36   23.53  n/a     .000
R0025:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A7             3.51     .635 No_date   28:01   58.43 .785     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:A7             3.51     .635 No_date   28:01   58.43  n/a     .000
                 out <=    1.0 01:A7-STR         3.51     .164 No_date   28:23   58.43  n/a     .000
            overflow <=    1.0 03:A7-OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.9358E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:ST-3            .71     .108 No_date   28:00   45.54 .612     .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:ST-3            .71     .108 No_date   28:00   45.54  n/a     .000
                 out <=    1.0 01:ST3STR          .71     .063 No_date   28:08   45.54  n/a     .000
            overflow <=    1.0 03:ST3OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.3355E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:ST2-IN       326.12    5.017 No_date   28:36   23.53  n/a     .000
                      +    1.0 02:A7-STR         3.51     .164 No_date   28:23   58.43  n/a     .000
                      +    1.0 02:A7-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:ST3STR          .71     .063 No_date   28:08   45.54  n/a     .000
                      +    1.0 02:ST3OVF          .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:PT2ST3       330.34    5.204 No_date   28:28   23.95  n/a     .000
R0025:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:PT2ST3       330.34    5.204 No_date   28:28   23.95  n/a     .000
     [RDT= 1.00] out<-     1.0 01:DRAIN2       330.34    4.806 No_date   29:00   23.95  n/a     .000
      [L/S/n=  592./ .230/.043]
      {Vmax=  .581:Dmax= 1.088}
R0025:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D2             2.28     .062 No_date   29:03   37.38 .502     .000
      [CN= 84.0: N= 3.00: Tp=  .99]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0025:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A17           12.04    1.933 No_date   28:03   58.43 .785     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:A17           12.04    1.933 No_date   28:03   58.43  n/a     .000
                 out <=    1.0 01:A17STR        12.04     .553 No_date   28:29   58.43  n/a     .000
            overflow <=    1.0 03:A17OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.3155E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:ST-4            .35     .055 No_date   28:00   45.54 .612     .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:ST-4            .35     .055 No_date   28:00   45.54  n/a     .000
                 out <=    1.0 01:ST4STR          .35     .031 No_date   28:07   45.54  n/a     .000
            overflow <=    1.0 03:ST4OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.2092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:A18            5.30     .922 No_date   28:02   58.43 .785     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:A18            5.30     .922 No_date   28:02   58.43  n/a     .000
                 out <=    1.0 01:A18STR         5.30     .247 No_date   28:25   58.43  n/a     .000
            overflow <=    1.0 03:A18OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.1408E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:DRAIN2       330.34    4.806 No_date   29:00   23.95  n/a     .000
                      +    1.0 02:D2             2.28     .062 No_date   29:03   37.38  n/a     .000
                      +    1.0 02:A17STR        12.04     .553 No_date   28:29   58.43  n/a     .000
                      +    1.0 02:A17OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:ST4STR          .35     .031 No_date   28:07   45.54  n/a     .000
                      +    1.0 02:ST4OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:A18STR         5.30     .247 No_date   28:25   58.43  n/a     .000
                      +    1.0 02:A18OVF          .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:PT3ST4       350.31    5.557 No_date   28:56   25.77  n/a     .000
R0025:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->     1.0 02:PT3ST4       350.31    5.557 No_date   28:56   25.77  n/a     .000
     [RDT= 1.00] out<-     1.0 01:DRAIN3       350.31    5.293 No_date   29:13   25.77  n/a     .000
      [L/S/n=  525./ .230/.043]
      {Vmax=  .603:Dmax= 1.137}
R0025:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD      1.0 01:D3             2.51     .095 No_date   28:43   40.67 .547     .000
      [CN= 86.0: N= 3.00: Tp=  .73]
      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
      [InterEventTime=  12.00]
R0025:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:C1             3.41     .618 No_date   28:01   58.43 .785     .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:C1             3.41     .618 No_date   28:01   58.43  n/a     .000
                 out <=    1.0 01:C1-STR         3.41     .159 No_date   28:23   58.43  n/a     .000
            overflow <=    1.0 03:C1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.9080E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:ST-5            .45     .071 No_date   28:00   45.54 .612     .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:ST-5            .45     .071 No_date   28:00   45.54  n/a     .000
                 out <=    1.0 01:ST5STR          .45     .040 No_date   28:07   45.54  n/a     .000
            overflow <=    1.0 03:ST5OVF          .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.2455E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:DRAIN3       350.31    5.293 No_date   29:13   25.77  n/a     .000
                      +    1.0 02:D3             2.51     .095 No_date   28:43   40.67  n/a     .000
                      +    1.0 02:C1-STR         3.41     .159 No_date   28:23   58.43  n/a     .000
                      +    1.0 02:C1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
                      +    1.0 02:ST5STR          .45     .040 No_date   28:07   45.54  n/a     .000
                      +    1.0 02:ST5OVF          .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:ST5-E        356.68    5.480 No_date   29:11   26.21  n/a     .000
R0025:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:STRAND         7.59     .918 No_date   28:10   57.02 .767     .000
      [XIMP=.64:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=  .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->     1.0 02:STRAND         7.59     .918 No_date   28:10   57.02  n/a     .000
                 out <=    1.0 01:S-POND         7.59     .109 No_date   29:19   57.02  n/a     .000
            overflow <=    1.0 03:S-OVF           .00     .000 No_date    0:00     .00  n/a     .000
     {MkStoUsed=.2915E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                1.0 02:ST5-E        356.68    5.480 No_date   29:11   26.21  n/a     .000
                      +    1.0 02:S-POND         7.59     .109 No_date   29:19   57.02  n/a     .000
                      +    1.0 02:S-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                   SUM=    1.0 01:SSAOUT       364.27    5.589 No_date   29:11   26.85  n/a     .000
R0025:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD               1.0 01:SSAOUT       364.27    5.589 No_date   29:11   26.85  n/a     .000
      fname :SSAOUT.0025
      remark:SSAOUT
R0025:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD    1.0 01:Area-A        66.75    7.879 No_date   28:09   56.06 .754     .000
      [XIMP=.64:TIMP=.80]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=  .0]
      [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=  .0]
```

```
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0025:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:Area-A          66.75     7.879 No_date   28:09    56.06  n/a      .000
        fname :Area-A.0025
        remark:SMWF-A Inflow
R0025:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:Area-A          66.75     7.879 No_date   28:09    56.06  n/a      .000
                   out <=     1.0 01:SWMF-A          66.75      .788 No_date   29:28    56.05  n/a      .000
              overflow <=     1.0 03:SWMAOV            .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.2643E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:SWMF-A          66.75      .788 No_date   29:28    56.05  n/a      .000
        fname :SWMF-A.0025
        remark:SMWF-A Outflow
R0025:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:SSAOUT         364.27     5.589 No_date   29:11    26.85  n/a      .000
                       +      1.0 02:SWMF-A          66.75      .788 No_date   29:28    56.05  n/a      .000
                       +      1.0 02:SWMAOV            .00      .000 No_date    0:00      .00  n/a      .000
                    SUM=      1.0 01:PT4ST5         431.02     6.356 No_date   29:13    31.37  n/a      .000
R0025:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:C6               1.87      .354 No_date   28:01    58.43 .785      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .50:LGI=  193.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0025:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:C6               1.87      .354 No_date   28:01    58.43  n/a      .000
                   out <=     1.0 01:C6-STR           1.87      .089 No_date   28:21    58.43  n/a      .000
              overflow <=     1.0 03:C6-OVF            .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.5013E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:C7               1.62      .309 No_date   28:01    58.43 .785      .000
        [XIMP=.68:TIMP=.85]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .50:LGI=  180.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0025:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:C7               1.62      .309 No_date   28:01    58.43  n/a      .000
                   out <=     1.0 01:C7-STR           1.62      .077 No_date   28:21    58.43  n/a      .000
              overflow <=     1.0 03:C7-OVF            .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.4331E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:ST-6              .41      .065 No_date   28:00    45.54 .612      .000
        [XIMP=.46:TIMP=.57]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area:  IAper= 4.67:SLPP= .50:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .50:LGI=   91.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0025:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:ST-6              .41      .065 No_date   28:00    45.54  n/a      .000
                   out <=     1.0 01:ST6STR            .41      .036 No_date   28:07    45.54  n/a      .000
              overflow <=     1.0 03:ST6OVF            .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.2350E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:PT4ST5         431.02     6.356 No_date   29:13    31.37  n/a      .000
                       +      1.0 02:C6-STR           1.87      .089 No_date   28:21    58.43  n/a      .000
                       +      1.0 02:C6-OVF            .00      .000 No_date    0:00      .00  n/a      .000
                       +      1.0 02:C7-STR           1.62      .077 No_date   28:21    58.43  n/a      .000
                       +      1.0 02:C7-OVF            .00      .000 No_date    0:00      .00  n/a      .000
                       +      1.0 02:ST6STR            .41      .036 No_date   28:07    45.54  n/a      .000
                       +      1.0 02:ST6OVF            .00      .000 No_date    0:00      .00  n/a      .000
                    SUM=      1.0 01:PT5ST6         434.92     6.464 No_date   29:12    31.60  n/a      .000
R0025:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->      1.0 02:PT5ST6         434.92     6.464 No_date   29:12    31.60  n/a      .000
      [RDT= 1.00] out<-       1.0 01:DRAIN4         434.92     6.229 No_date   29:21    31.60  n/a      .000
        [L/S/n=  324./  .100/.043]
        {Vmax=   .475:Dmax= 1.440}
R0025:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD        1.0 01:D4               1.73      .082 No_date   28:34    43.34 .583      .000
        [CN= 88.0:  N= 3.00:  Tp=   .60]
        [IaREC= 4.00:  SMIN= 14.94:  SMAX= 99.61:  SK= .010]
        [InterEventTime=  12.00]
R0025:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:Area-B          24.04     3.916 No_date   28:03    54.85 .737      .000
        [XIMP=.62:TIMP=.77]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area:  IAper= 4.67:SLPP=1.40:LGP=   50.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI=1.40:LGI=  693.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0025:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:Area-B          24.04     3.916 No_date   28:03    54.85  n/a      .000
                   out <=     1.0 01:SWMF-B          24.04      .492 No_date   28:44    54.85  n/a      .000
              overflow <=     1.0 03:SWMBOVF           .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.8178E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:DRAIN4         434.92     6.229 No_date   29:21    31.60  n/a      .000
                       +      1.0 02:D4               1.73      .082 No_date   28:34    43.34  n/a      .000
                       +      1.0 02:SWMF-B          24.04      .492 No_date   28:44    54.85  n/a      .000
                       +      1.0 02:SWMBOVF           .00      .000 No_date    0:00      .00  n/a      .000
                    SUM=      1.0 01:D4-EX          460.69     6.717 No_date   29:21    32.86  n/a      .000
R0025:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->      1.0 02:D4-EX          460.69     6.717 No_date   29:21    32.86  n/a      .000
      [RDT= 1.00] out<-       1.0 01:DRAIN5         460.69     6.598 No_date   29:35    32.86  n/a      .000
        [L/S/n=  413./  .160/.033]
        {Vmax=   .641:Dmax=   .984}
R0025:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD        1.0 01:D5               1.90      .075 No_date   28:41    40.67 .547      .000
        [CN= 86.0:  N= 3.00:  Tp=   .69]
        [IaREC= 4.00:  SMIN= 17.43:  SMAX=116.21:  SK= .010]
        [InterEventTime=  12.00]
R0025:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD        1.0 01:O-13SDF          9.74      .487 No_date   28:22    38.23 .514      .000
        [CN= 81.0:  N= 3.00:  Tp=   .43]
        [IaREC= 4.00:  SMIN= 25.21:  SMAX=168.09:  SK= .010]
        [InterEventTime=  12.00]
R0025:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:O-13SDF          9.74      .487 No_date   28:22    38.23  n/a      .000
                   out <=     1.0 01:SDF              9.74      .052 No_date   31:01    38.23  n/a      .000
              overflow <=     1.0 03:OVFSDF            .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.2061E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:DRAIN5         460.69     6.598 No_date   29:35    32.86  n/a      .000
                       +      1.0 02:D5               1.90      .075 No_date   28:41    40.67  n/a      .000
                       +      1.0 02:SDF              9.74      .052 No_date   31:01    38.23  n/a      .000
                    SUM=      1.0 01:PT6MC          472.33     6.689 No_date   29:35    33.00  n/a      .000
R0025:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD        1.0 01:O-15            10.67      .668 No_date   28:13    37.06 .498      .000
        [CN= 82.0:  N= 3.00:  Tp=   .30]
        [IaREC= 4.00:  SMIN= 23.09:  SMAX=153.94:  SK= .010]
        [InterEventTime=  12.00]
R0025:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:PT6MC          472.33     6.689 No_date   29:35    33.00  n/a      .000
                       +      1.0 02:O-15            10.67      .668 No_date   28:13    37.06  n/a      .000
                    SUM=      1.0 01:M-C            483.00     6.790 No_date   29:34    33.09  n/a      .000
R0025:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->      1.0 02:M-C            483.00     6.790 No_date   29:34    33.09  n/a      .000
      [RDT= 1.00] out<-       1.0 01:O-14Ch         483.00     6.173 No_date   30:10    33.09  n/a      .000
        [L/S/n=  845./  .100/.033]
        {Vmax=   .552:Dmax= 1.692}
R0025:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD        1.0 01:O-14             5.00      .516 No_date   28:04    37.06 .498      .000
        [CN= 82.0:  N= 3.00:  Tp=   .13]
        [IaREC= 4.00:  SMIN= 23.09:  SMAX=153.94:  SK= .010]
        [InterEventTime=  12.00]
R0025:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:O-14Ch         483.00     6.173 No_date   30:10    33.09  n/a      .000
                       +      1.0 02:O-14             5.00      .516 No_date   28:04    37.06  n/a      .000
                    SUM=      1.0 01:OKEEFE         488.00     6.203 No_date   30:09    33.13  n/a      .000
#****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#****************************************************************************
R0025:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:S-1-D2          18.67     2.960 No_date   28:01    57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area:  IAper= 4.67:SLPP=2.00:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .75:LGI=  353.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:S-1-D2          18.67     2.960 No_date   28:01    57.38  n/a      .000
      Major System   /        1.0 02:S-1-D2J           .00      .000 No_date    0:00      .00  n/a      .000
      Minor System   \        1.0 03:S-1-D2N         18.67     2.097 No_date   27:55    57.70  n/a      .000
        {MjSysSto=.4055E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:S-1-D2J           .00      .000 No_date    0:00      .00  n/a      .000
                       +      1.0 02:S-1-D2N         18.67     2.097 No_date   27:55    57.70  n/a      .000
                    SUM=      1.0 01:S-1-D2S         18.67     2.097 No_date   27:55    57.70  n/a      .000
R0025:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:S-1-D2S         18.67     2.097 No_date   27:55    57.70  n/a      .000
                   out <=     1.0 01:S-1-D2R         18.67      .194 No_date   29:20    57.70  n/a      .000
              overflow <=     1.0 03:S-1-D2Rovf        .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.6483E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:S-1-D3           6.79     1.150 No_date   28:01    57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious      area:  IAper= 4.67:SLPP=2.00:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .75:LGI=  213.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:S-1-D3           6.79     1.150 No_date   28:01    57.38  n/a      .000
      Major System   /        1.0 02:S-1-D3J           .00      .000 No_date    0:00      .00  n/a      .000
      Minor System   \        1.0 03:S-1-D3N          6.79      .831 No_date   27:54    57.61  n/a      .000
        {MjSysSto=.1361E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:S-1-D3J           .00      .000 No_date    0:00      .00  n/a      .000
                       +      1.0 02:S-1-D3N          6.79      .831 No_date   27:54    57.61  n/a      .000
                    SUM=      1.0 01:S-1-D3S          6.79      .831 No_date   27:54    57.61  n/a      .000
R0025:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:S-1-D3S          6.79      .831 No_date   27:54    57.61  n/a      .000
                   out <=     1.0 01:S-1-D3R          6.79      .070 No_date   29:16    57.61  n/a      .000
              overflow <=     1.0 03:S-1-D3Rovf        .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.2353E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:N_OK         53064.36   107.360 No_date   33:27    28.68  n/a      .000
                       +      1.0 02:OKEEFE         488.00     6.203 No_date   30:09    33.13  n/a      .000
                       +      1.0 02:S-1-D2R         18.67      .194 No_date   29:20    57.70  n/a      .000
                       +      1.0 02:S-1-D3R          6.79      .070 No_date   29:16    57.61  n/a      .000
                       +      1.0 02:S-1-D2Rovf        .00      .000 No_date    0:00      .00  n/a      .000
                       +      1.0 02:S-1-D3Rovf        .00      .000 No_date    0:00      .00  n/a      .000
                    SUM=      1.0 01:SN_OK        53577.82   109.739 No_date   33:27    28.74  n/a      .000
R0025:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:SN_OK        53577.82   109.739 No_date   33:27    28.74  n/a      .000
        fname :SN_OK.0025
        remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0025:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->      1.0 02:SN_OK        53577.82   109.739 No_date   33:27    28.74  n/a      .000
      [RDT= 1.00] out<-       1.0 01:N_FO         53577.82   109.449 No_date   33:28    28.74  n/a      .000
        [L/S/n= 1183./  .076/.035]
        {Vmax= 1.186:Dmax= 3.166}
#****************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#****************************************************************************
R0025:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:FOSTER         325.44    28.008 No_date   28:12    52.35 .704      .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area:  IAper= 4.67:SLPP= .50:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#****************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#****************************************************************************
R0025:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:FOSTER         325.44    28.008 No_date   28:12    52.35  n/a      .000
                   out <=     1.0 01:P_FOS          325.44     7.246 No_date   29:04    52.35  n/a      .000
              overflow <=     1.0 03:FO-OVF            .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.7008E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:P_FOS          325.44     7.246 No_date   29:04    52.35  n/a      .000
                       +      1.0 02:FO-OVF            .00      .000 No_date    0:00      .00  n/a      .000
                    SUM=      1.0 01:FOSTER-OUT     325.44     7.246 No_date   29:04    52.35  n/a      .000
#****************************************************************************
R0025:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:W_CLAR_BRA      73.29     9.076 No_date   28:05    56.82 .764      .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious      area:  IAper= 4.67:SLPP=1.00:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .50:LGI=  699.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0025:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:W_CLAR_BRA      73.29     9.076 No_date   28:05    56.82  n/a      .000
                   out <=     1.0 01:MS_P10          73.29     1.168 No_date   29:06    56.82  n/a      .000
              overflow <=     1.0 03:P10-OVF           .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.1685E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:S-1-FO-D2        4.94      .707 No_date   28:01    52.35 .704      .000
        [XIMP=.55:TIMP=.55]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area:  IAper= 4.67:SLPP= .50:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .50:LGI=  181.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:S-1-FO-D2        4.94      .707 No_date   28:01    52.35  n/a      .000
      Major System   /        1.0 02:S-1-FO-D2J        .00      .000 No_date    0:00      .00  n/a      .000
      Minor System   \        1.0 03:S-1-FO-D2N       4.94      .508 No_date   28:14    52.51  n/a      .000
        {MjSysSto=.8671E+02,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:S-1-FO-D2J        .00      .000 No_date    0:00      .00  n/a      .000
                       +      1.0 02:S-1-FO-D2N       4.94      .508 No_date   28:14    52.51  n/a      .000
                    SUM=      1.0 01:S-1-FO-D2S       4.94      .508 No_date   28:14    52.51  n/a      .000
R0025:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:S-1-FO-D2S       4.94      .508 No_date   28:14    52.51  n/a      .000
                   out <=     1.0 01:S-1-FO-D2R       4.94      .046 No_date   29:33    52.50  n/a      .000
              overflow <=     1.0 03:S-1FOD2ovf        .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.1543E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:FOSTER-OUT     325.44     7.246 No_date   29:04    52.35  n/a      .000
                       +      1.0 02:S-1-FO-D2R       4.94      .046 No_date   29:33    52.50  n/a      .000
                       +      1.0 02:S-1FOD2ovf        .00      .000 No_date    0:00      .00  n/a      .000
                    SUM=      1.0 01:980            330.38     7.292 No_date   29:04    52.35  n/a      .000
R0025:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:980            330.38     7.292 No_date   29:04    52.35  n/a      .000
        fname :980.0025
        remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0025:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->      1.0 02:980            330.38     7.292 No_date   29:04    52.35  n/a      .000
 *    [RDT= 1.00] out<-       1.0 01:980-out        330.38     7.051 No_date   29:15    52.35  n/a      .000
        [L/S/n=  460./  .043/.035]
        {Vmax=   .642:Dmax= 1.516}
R0025:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:S-1-FO-D1        5.11      .830 No_date   28:00    56.90 .765      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area:  IAper= 4.67:SLPP= .50:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .50:LGI=  185.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:S-1-FO-D1        5.11      .830 No_date   28:00    56.90  n/a      .000
      Major System   /        1.0 02:S-1-FO-D1J        .00      .000 No_date    0:00      .00  n/a      .000
      Minor System   \        1.0 03:S-1-FO-D1N       5.11      .605 No_date   28:13    57.24  n/a      .000
        {MjSysSto=.9506E+02,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:S-1-FO-D1N       5.11      .605 No_date   27:54    57.24  n/a      .000
                       +      1.0 02:S-1-FO-D1J        .00      .000 No_date    0:00      .00  n/a      .000
                    SUM=      1.0 01:S-1-FO-D1S       5.11      .605 No_date   27:54    57.24  n/a      .000
R0025:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:S-1-FO-D1S       5.11      .605 No_date   27:54    57.24  n/a      .000
                   out <=     1.0 01:S-1-FO-D1R       5.11      .053 No_date   29:23    57.24  n/a      .000
              overflow <=     1.0 03:S-1FOD1ovf        .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.1756E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:980-out        330.38     7.051 No_date   29:15    52.35  n/a      .000
                       +      1.0 02:S-1-FO-D1R       5.11      .053 No_date   29:23    57.24  n/a      .000
                       +      1.0 02:S-1FOD1ovf        .00      .000 No_date    0:00      .00  n/a      .000
                    SUM=      1.0 01:520            335.49     7.103 No_date   29:15    52.43  n/a      .000
R0025:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:520            335.49     7.103 No_date   29:15    52.43  n/a      .000
        fname :520.0025
        remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0025:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->      1.0 02:520            335.49     7.103 No_date   29:15    52.43  n/a      .000
      [RDT= 1.00] out<-       1.0 01:520-out        335.49     7.032 No_date   29:23    52.43  n/a      .000
        [L/S/n=  860./  .587/.035]
        {Vmax= 1.474:Dmax=   .723}
R0025:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:S-1-FO-F-D      14.96     2.238 No_date   28:02    56.90 .765      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 74.0]
        [Pervious      area:  IAper= 4.67:SLPP= .50:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp= 1.57:SLPI= .50:LGI=  316.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
        [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:S-1-FO-F-D      14.96     2.238 No_date   28:02    56.90  n/a      .000
      Major System   /        1.0 02:S-1FO-F-DJ        .00      .000 No_date    0:00      .00  n/a      .000
      Minor System   \        1.0 03:S-1FO-F-DN      14.96     1.615 No_date   27:55    56.95  n/a      .000
        {MjSysSto=.2999E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:S-1FO-F-DJ        .00      .000 No_date    0:00      .00  n/a      .000
                       +      1.0 02:S-1FO-F-DN      14.96     1.615 No_date   27:55    56.95  n/a      .000
                    SUM=      1.0 01:S-1FO-F-DS      14.96     1.615 No_date   27:55    56.95  n/a      .000
R0025:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:S-1FO-F-DS      14.96     1.615 No_date   27:55    56.95  n/a      .000
                   out <=     1.0 01:S-1FO-F-DR      14.96      .153 No_date   29:30    56.95  n/a      .000
              overflow <=     1.0 03:S-1FoFDovf        .00      .000 No_date    0:00      .00  n/a      .000
       {MkStoUsed=.5104E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD      1.0 01:S-1-D8           5.27      .945 No_date   28:01    42.02 .565      .000
        [XIMP=.32:TIMP=.65]
        [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious      area:  IAper= 4.67:SLPP=2.00:LGP=   40.:MNP=.250:SCP=    .0]
        [Impervious    area:  IAimp=  .79:SLPI= .75:LGI=  187.:MNI=.013:SCI=    .0]
        [IaRECimp=   4.00:  IaRECper=   4.00]
R0025:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:S-1-D8           5.27      .945 No_date   28:01    42.02  n/a      .000
      Major System   /        1.0 02:S-1-D8J           .00      .000 No_date    0:00      .00  n/a      .000
      Minor System   \        1.0 03:S-1-D8N          5.27      .672 No_date   27:55    42.30  n/a      .000
        {MjSysSto=.1242E+03,  TotOvfVol=.0000E+00,  N-Ovf=     0,  TotDurOvf=     0.hrs}
R0025:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:S-1-D8J           .00      .000 No_date    0:00      .00  n/a      .000
                       +      1.0 02:S-1-D8N          5.27      .672 No_date   27:55    42.30  n/a      .000
                    SUM=      1.0 01:S-1-D8S          5.27      .672 No_date   27:55    42.30  n/a      .000
R0025:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

```
     ROUTE RESERVOIR ->    1.0 02:S-1-D8S          5.27      .672 No_date   27:55   42.30  n/a      .000
                 out <=    1.0 01:S-1-D8R          5.27      .050 No_date   28:47   42.30  n/a      .000
            overflow <=    1.0 03:S-1-D8Rovf        .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.1658E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-1-A           75.88     2.541 No_date   28:36   34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp= .62]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime= 12.00]
R0025:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:W_CLAR_UND      35.65      .789 No_date   29:10   34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp= 1.10]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime= 12.00]
R0025:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_FO         53577.82   109.449 No_date   33:28   28.74  n/a      .000
                    +      1.0 02:520-out        335.49     7.032 No_date   29:23   52.43  n/a      .000
                    +      1.0 02:MS_P10          73.29     1.168 No_date   29:06   56.82  n/a      .000
                    +      1.0 02:P10-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:W_CLAR_UND      35.65      .789 No_date   29:10   34.14  n/a      .000
                    +      1.0 02:S-1FoFDovf        .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1FO-F-DR      14.96      .153 No_date   29:30   56.95  n/a      .000
                    +      1.0 02:S-1-D8Rovf        .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-D8R          5.27      .050 No_date   28:47   42.30  n/a      .000
                    +      1.0 02:S-1-A           75.88     2.541 No_date   28:36   34.14  n/a      .000
                 SUM=      1.0 01:SN_FO        54118.36   114.198 No_date   33:27   28.94  n/a      .000
R0025:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_FO        54118.36   114.198 No_date   33:27   28.94  n/a      .000
        fname :SN_FO.0025
        remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0025:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_FO        54118.36   114.198 No_date   33:27   28.94  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_CE         54118.36   114.014 No_date   33:32   28.94  n/a      .000
       [L/S/n= 159./ .082/.035]
       {Vmax= 1.425:Dmax= 3.814}
#*************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#*************************************************************************
R0025:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-1-B           55.36     2.311 No_date   28:23   34.14 .459      .000
        [CN= 77.0: N= 3.00: Tp= .45]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime= 12.00]
#    - JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    - JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    - JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0025:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D1          21.67     3.385 No_date   28:01   57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-D1          21.67     3.385 No_date   28:01   57.38  n/a      .000
      Major System  /      1.0 02:S-1-D1J           .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:S-1-D1N         21.67     2.409 No_date   27:55   57.58  n/a      .000
        {MjSysSto=.4594E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S-1-D1J           .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-D1N         21.67     2.409 No_date   27:55   57.58  n/a      .000
                 SUM=      1.0 01:S-1-D1S         21.67     2.409 No_date   27:55   57.58  n/a      .000
R0025:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S-1-D1S         21.67     2.409 No_date   27:55   57.58  n/a      .000
                 out <=    1.0 01:S-1-D1R         21.67      .225 No_date   29:22   57.58  n/a      .000
            overflow <=    1.0 03:S-1-D1Rovf        .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.7499E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D4           3.28      .581 No_date   28:00   57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-D4           3.28      .581 No_date   28:00   57.38  n/a      .000
      Major System  /      1.0 02:S-1-D4J           .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:S-1-D4N          3.28      .421 No_date   27:54   57.72  n/a      .000
        {MjSysSto=.6427E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S-1-D4J           .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-D4N          3.28      .421 No_date   27:54   57.72  n/a      .000
                 SUM=      1.0 01:S-1-D4S          3.28      .421 No_date   27:54   57.72  n/a      .000
R0025:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S-1-D4S          3.28      .421 No_date   27:54   57.72  n/a      .000
                 out <=    1.0 01:S-1-D4R          3.28      .034 No_date   29:13   57.71  n/a      .000
            overflow <=    1.0 03:S-1-D4Rovf        .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.1140E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D5          12.84     2.083 No_date   28:01   57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-D5          12.84     2.083 No_date   28:01   57.38  n/a      .000
      Major System  /      1.0 02:S-1-D5J           .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:S-1-D5N         12.84     1.500 No_date   27:55   57.52  n/a      .000
        {MjSysSto=.2624E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S-1-D5J           .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-D5N         12.84     1.500 No_date   27:55   57.52  n/a      .000
                 SUM=      1.0 01:S-1-D5S         12.84     1.500 No_date   27:55   57.52  n/a      .000
R0025:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S-1-D5S         12.84     1.500 No_date   27:55   57.52  n/a      .000
                 out <=    1.0 01:S-1-D5R         12.84      .133 No_date   29:19   57.52  n/a      .000
            overflow <=    1.0 03:S-1-D5Rovf        .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.4437E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D6           1.75      .319 No_date   28:00   57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-D6           1.75      .319 No_date   28:00   57.38  n/a      .000
      Major System  /      1.0 02:S-1-D6J           .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:S-1-D6N          1.75      .232 No_date   27:53   57.55  n/a      .000
        {MjSysSto=.3427E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S-1-D6J           .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-D6N          1.75      .232 No_date   27:53   57.55  n/a      .000
                 SUM=      1.0 01:S-1-D6S          1.75      .232 No_date   27:53   57.55  n/a      .000
R0025:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S-1-D6S          1.75      .232 No_date   27:53   57.55  n/a      .000
                 out <=    1.0 01:S-1-D6R          1.75      .018 No_date   29:12   57.55  n/a      .000
            overflow <=    1.0 03:S-1-D6Rovf        .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.6057E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D7           2.03      .369 No_date   28:00   57.38 .771      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-D7           2.03      .369 No_date   28:00   57.38  n/a      .000
      Major System  /      1.0 02:S-1-D7J           .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:S-1-D7N          2.03      .265 No_date   27:53   57.80  n/a      .000
        {MjSysSto=.4131E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S-1-D7J           .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-D7N          2.03      .265 No_date   27:53   57.80  n/a      .000
                 SUM=      1.0 01:S-1-D7S          2.03      .265 No_date   27:53   57.80  n/a      .000
R0025:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S-1-D7S          2.03      .265 No_date   27:53   57.80  n/a      .000
                 out <=    1.0 01:S-1-D7R          2.03      .021 No_date   29:11   57.80  n/a      .000
            overflow <=    1.0 03:S-1-D7Rovf        .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.7068E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#*************************************************************************
R0025:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ        1.77      .279 No_date   28:00   52.78 .709      .000
        [XIMP=.46:TIMP=.59]
        [LOSS= 2 :CN= 77.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0025:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:W_CLAR_MJ        1.77      .279 No_date   28:00   52.78  n/a      .000
                 out <=    1.0 01:W_CLAR_MJn       1.73      .213 No_date   27:54   52.78  n/a      .000
            overflow <=    1.0 03:W_CLAR_MJj        .04      .062 No_date   28:01   52.78  n/a      .000
       {MxStoUsed=.1173E-03  m3, TotOvfVol=.2205E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0025:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL     119.40    15.305 No_date   28:04   56.82 .764      .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:W_CLAR_ALL     119.40    15.305 No_date   28:04   56.82  n/a      .000
                    +      1.0 02:W_CLAR_MJj        .04      .062 No_date   28:01   52.78  n/a      .000
                 SUM=      1.0 01:W_CLAR         119.44    15.305 No_date   28:04   56.81  n/a      .000
R0025:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:W_CLAR         119.44    15.305 No_date   28:04   56.81  n/a      .000
        fname :W_CLAR.0025
        remark:Total Flows to West Clarke
#*************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*************************************************************************
R0025:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:W_CLAR         119.44    15.305 No_date   28:04   56.81  n/a      .000
                 out <=    1.0 01:MS_P2          119.44     7.398 No_date   28:20   56.81  n/a      .000
            overflow <=    1.0 03:P2-OVF            .00      .000 No_date    0:00     .00  n/a      .000
       {MxStoUsed=.2962E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#*************************************************************************
R0025:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_CE         54118.36   114.014 No_date   33:32   28.94  n/a      .000
                    +      1.0 02:S-1-D4R          3.28      .034 No_date   29:13   57.71  n/a      .000
                    +      1.0 02:S-1-D5R         12.84      .133 No_date   29:19   57.52  n/a      .000
                    +      1.0 02:S-1-D4Rovf        .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-D5Rovf        .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:MS_P2          119.44     7.398 No_date   28:20   56.81  n/a      .000
                    +      1.0 02:P2-OVF            .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=      1.0 01:SN_CE        54253.92   114.982 No_date   33:32   29.01  n/a      .000
R0025:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_CE        54253.92   114.982 No_date   33:32   29.01  n/a      .000
        fname :SN_CE.0025
        remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0025:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_CE        54253.92   114.982 No_date   33:32   29.01  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:5737         54253.92   108.094 No_date   36:08   29.01  n/a      .000
       [L/S/n= 270./ .018/.035]
       {Vmax= .784:Dmax= 4.985}
R0025:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:5737         54253.92   108.094 No_date   36:08   29.01  n/a      .000
                    +      1.0 02:S-1-D1R         21.67      .225 No_date   29:22   57.58  n/a      .000
                    +      1.0 02:S-1-D6R          1.75      .018 No_date   29:12   57.55  n/a      .000
                    +      1.0 02:S-1-D7R          2.03      .021 No_date   29:11   57.80  n/a      .000
                    +      1.0 02:S-1-D1Rovf        .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-D6Rovf        .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-D7Rovf        .00      .000 No_date    0:00     .00  n/a      .000
                 SUM=      1.0 01:5002         54279.37   108.278 No_date   36:07   29.03  n/a      .000
R0025:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:5002         54279.37   108.278 No_date   36:07   29.03  n/a      .000
        fname :5002.0025
        remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0025:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:5002         54279.37   108.278 No_date   36:07   29.03  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_WCa        54279.37   108.230 No_date   36:18   29.03  n/a      .000
       [L/S/n= 245./ .095/.035]
       {Vmax= 1.212:Dmax= 2.784}
R0025:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:N_WCa        54279.37   108.230 No_date   36:18   29.03  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_WCb        54279.37   108.213 No_date   36:26   29.03  n/a      .000
       [L/S/n= 245./ .095/.035]
       {Vmax= 1.212:Dmax= 2.783}
R0025:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:N_WCb        54279.37   108.213 No_date   36:26   29.03  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_WC         54279.37   108.189 No_date   36:34   29.03  n/a      .000
       [L/S/n= 245./ .095/.035]
       {Vmax= 1.212:Dmax= 2.783}
#*************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0025:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:N_WC         54279.37   108.189 No_date   36:34   29.03  n/a      .000
 *    [RDT= 1.00] out<-    1.0 01:N_KB         54279.37   103.026 No_date   38:57   29.03  n/a      .000
       [L/S/n= 1020./ .050/.035]
       {Vmax= 1.074:Dmax= 3.491}
#*************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#*************************************************************************
#*************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#*************************************************************************
R0025:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01A          40.82     4.186 No_date   28:11   29.35 .395      .000
        [XIMP=.10:TIMP=.40]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01A          40.82     4.186 No_date   28:11   29.35  n/a      .000
      Major System  /      1.0 02:KB-01A-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-01A-MN       40.82     3.600 No_date   28:03   29.50  n/a      .000
        {MjSysSto=.3786E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01A-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:KB-01A-MN       40.82     3.600 No_date   28:03   29.50  n/a      .000
                 SUM=      1.0 01:KB-01A-S        40.82     3.600 No_date   28:03   29.50  n/a      .000
R0025:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01B          31.10     3.068 No_date   28:07   32.30 .434      .000
        [XIMP=.19:TIMP=.38]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01B          31.10     3.068 No_date   28:07   32.30  n/a      .000
      Major System  /      1.0 02:KB-01B-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-01B-MN       31.10     1.585 No_date   27:55   32.52  n/a      .000
        {MjSysSto=.1849E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01B-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:KB-01B-MN       31.10     1.585 No_date   27:55   32.52  n/a      .000
                 SUM=      1.0 01:KB-01B-S        31.10     1.585 No_date   27:55   32.52  n/a      .000
R0025:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01C          13.78     1.868 No_date   28:04   33.51 .450      .000
        [XIMP=.20:TIMP=.41]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01C          13.78     1.868 No_date   28:04   33.51  n/a      .000
      Major System  /      1.0 02:KB-01C-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-01C-MN       13.78     1.350 No_date   27:57   33.69  n/a      .000
        {MjSysSto=.3173E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01C-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:KB-01C-MN       13.78     1.350 No_date   27:57   33.69  n/a      .000
                 SUM=      1.0 01:KB-01C-S        13.78     1.350 No_date   27:57   33.69  n/a      .000
R0025:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-03           84.78     9.657 No_date   28:08   32.97 .443      .000
        [XIMP=.20:TIMP=.39]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-03           84.78     9.657 No_date   28:08   32.97  n/a      .000
      Major System  /      1.0 02:KB-03-MJ          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-03-MN        84.78     5.270 No_date   27:56   33.21  n/a      .000
        {MjSysSto=.4456E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-03-MJ          .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:KB-03-MN        84.78     5.270 No_date   27:56   33.21  n/a      .000
                 SUM=      1.0 01:KB-03-S         84.78     5.270 No_date   27:56   33.21  n/a      .000
R0025:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-04            6.95     1.434 No_date   28:00   65.29 .878      .000
        [XIMP=.85:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-04            6.95     1.434 No_date   28:00   65.29  n/a      .000
      Major System  /      1.0 02:KB-04-MJ          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-04-MN         6.95      .503 No_date   27:45   65.54  n/a      .000
        {MjSysSto=.7689E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-04-MJ          .00      .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:KB-04-MN         6.95      .503 No_date   27:45   65.54  n/a      .000
                 SUM=      1.0 01:KB-04-S          6.95      .503 No_date   27:45   65.54  n/a      .000
R0025:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-05            5.19     1.147 No_date   28:00   69.06 .928      .000
        [XIMP=.93:TIMP=.93]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0025:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-06           12.93     2.960 No_date   28:00   66.54 .895      .000
        [XIMP=.87:TIMP=.87]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
```

```
         [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-06          12.93    2.960 No_date   28:00   66.54  n/a     .000
       Major System   /      1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:KB-06-MN       12.93    2.262 No_date   28:07   66.58  n/a     .000
         {MjSysSto=.2613E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:KB-06-MN       12.93    2.262 No_date   28:07   66.58  n/a     .000
                     SUM=    1.0 01:KB-06-S        12.93    2.262 No_date   28:07   66.58  n/a     .000
 R0025:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-11           4.03     .817 No_date   28:00   55.88 .751     .000
         [XIMP=.68:TIMP=.68]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-11           4.03     .817 No_date   28:00   55.88  n/a     .000
       Major System   /      1.0 02:KB-11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:KB-11-MN        4.03     .577 No_date   27:53   55.96  n/a     .000
         {MjSysSto=.9558E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:KB-11-MN        4.03     .577 No_date   27:53   55.96  n/a     .000
                     SUM=    1.0 01:KB-11-S         4.03     .577 No_date   27:53   55.96  n/a     .000
 R0025:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:S1              4.99    1.184 No_date   28:00   69.06 .928     .000
         [XIMP=.93:TIMP=.93]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-15           2.15     .447 No_date   28:00   62.65 .842     .000
         [XIMP=.79:TIMP=.79]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-01A-S       40.82    3.600 No_date   28:03   29.50  n/a     .000
                        +    1.0 02:KB-01B-S       31.10    1.585 No_date   27:55   32.52  n/a     .000
                        +    1.0 02:KB-01C-S       13.78    1.350 No_date   27:57   33.69  n/a     .000
                        +    1.0 02:KB-03-S        84.78    5.270 No_date   27:56   33.21  n/a     .000
                        +    1.0 02:KB-04-S         6.95     .503 No_date   27:45   65.54  n/a     .000
                        +    1.0 02:KB-05           5.19    1.147 No_date   28:00   69.06  n/a     .000
                        +    1.0 02:KB-06-S        12.93    2.262 No_date   28:07   66.58  n/a     .000
                        +    1.0 02:KB-11-S         4.03     .577 No_date   27:53   55.96  n/a     .000
                        +    1.0 02:KB-15           2.15     .447 No_date   28:00   62.65  n/a     .000
                        +    1.0 02:S1              4.99    1.184 No_date   28:00   69.06  n/a     .000
                     SUM=    1.0 01:KB-P1         206.72   17.555 No_date   28:01   38.09  n/a     .000
 R0025:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:KB-P1         206.72   17.555 No_date   28:01   38.09  n/a     .000
                  out <=     1.0 01:KB-P1R        201.26   12.438 No_date   28:05   38.09  n/a     .000
             overflow <=     1.0 03:KB-P1ovf        5.46    4.400 No_date   28:05   38.09  n/a     .000
        {MxStoUsed=.7322E+00  m3, TotOvfVol=.2079E+00  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
 R0025:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-P1R        201.26   12.438 No_date   28:05   38.09  n/a     .000
                        +    1.0 02:KB-P1ovf        5.46    4.400 No_date   28:05   38.09  n/a     .000
                     SUM=    1.0 01:KB-Pond1      206.72   16.838 No_date   28:05   38.09  n/a     .000
 R0025:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:KB-Pond1      206.72   16.838 No_date   28:05   38.09  n/a     .000
         fname :KB-Pond1.0025
         remark:Total Flows at KB first pond
 R0025:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-07          10.86    2.392 No_date   28:00   65.97 .887     .000
         [XIMP=.86:TIMP=.86]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-07          10.86    2.392 No_date   28:00   65.97  n/a     .000
       Major System   /      1.0 02:KB-07-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:KB-07-MN       10.86    2.094 No_date   27:56   66.02  n/a     .000
         {MjSysSto=.7523E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-07-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:KB-07-MN       10.86    2.094 No_date   27:56   66.02  n/a     .000
                     SUM=    1.0 01:KB-07-S        10.86    2.094 No_date   27:56   66.02  n/a     .000
 R0025:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-08           6.61    1.292 No_date   28:00   53.97 .726     .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-08           6.61    1.292 No_date   28:00   53.97  n/a     .000
       Major System   /      1.0 02:KB-08-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:KB-08-MN        6.61    1.058 No_date   27:55   54.34  n/a     .000
         {MjSysSto=.6817E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-08-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:KB-08-MN        6.61    1.058 No_date   27:55   54.34  n/a     .000
                     SUM=    1.0 01:KB-08-S         6.61    1.058 No_date   27:55   54.34  n/a     .000
 R0025:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-09           2.60     .599 No_date   28:00   65.30 .878     .000
         [XIMP=.86:TIMP=.86]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-10_1         2.37     .550 No_date   28:00   65.30 .878     .000
         [XIMP=.86:TIMP=.86]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-10_2         1.14     .266 No_date   28:00   65.30 .878     .000
         [XIMP=.86:TIMP=.86]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-12           4.86    1.059 No_date   28:00   61.90 .832     .000
         [XIMP=.79:TIMP=.79]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-12           4.86    1.059 No_date   28:00   61.90  n/a     .000
       Major System   /      1.0 02:KB-12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:KB-12-MN        4.86     .867 No_date   27:54   62.20  n/a     .000
         {MjSysSto=.6022E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:KB-12-MN        4.86     .867 No_date   27:54   62.20  n/a     .000
                     SUM=    1.0 01:KB-12-S         4.86     .867 No_date   27:54   62.20  n/a     .000
 R0025:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-13          10.19    1.930 No_date   28:00   53.97 .726     .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-13          10.19    1.930 No_date   28:00   53.97  n/a     .000
       Major System   /      1.0 02:KB-13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:KB-13-MN       10.19    1.722 No_date   27:57   53.98  n/a     .000
         {MjSysSto=.4703E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:KB-13-MN       10.19    1.722 No_date   27:57   53.98  n/a     .000
                     SUM=    1.0 01:KB-13-S        10.19    1.722 No_date   27:57   53.98  n/a     .000
 R0025:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-14           5.47    1.075 No_date   28:00   53.97 .726     .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:KB-14           5.47    1.075 No_date   28:00   53.97  n/a     .000
       Major System   /      1.0 02:KB-14-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:KB-14-MN        5.47     .873 No_date   27:55   54.32  n/a     .000
         {MjSysSto=.6018E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-14-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:KB-14-MN        5.47     .873 No_date   27:55   54.32  n/a     .000
                     SUM=    1.0 01:KB-14-S         5.47     .873 No_date   27:55   54.32  n/a     .000
 R0025:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-16_2         3.42     .649 No_date   28:01   58.24 .783     .000
         [XIMP=.71:TIMP=.71]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-Pond1      206.72   16.838 No_date   28:05   38.09  n/a     .000
                        +    1.0 02:KB-07-S        10.86    2.094 No_date   27:56   66.02  n/a     .000
                        +    1.0 02:KB-08-S         6.61    1.058 No_date   27:55   54.34  n/a     .000
                        +    1.0 02:KB-09           2.60     .599 No_date   28:00   65.30  n/a     .000
                        +    1.0 02:KB-10_1         2.37     .550 No_date   28:00   65.30  n/a     .000
                        +    1.0 02:KB-10_2         1.14     .266 No_date   28:00   65.30  n/a     .000
                        +    1.0 02:KB-12-S         4.86     .867 No_date   27:54   62.20  n/a     .000
                        +    1.0 02:KB-13-S        10.19    1.722 No_date   27:57   53.98  n/a     .000
                        +    1.0 02:KB-14-S         5.47     .873 No_date   27:55   54.32  n/a     .000
                        +    1.0 02:KB-16_2         3.42     .649 No_date   28:01   58.24  n/a     .000
                     SUM=    1.0 01:KB-P2         254.24   24.423 No_date   28:05   42.08  n/a     .000
 R0025:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:KB-P2         254.24   24.423 No_date   28:05   42.08  n/a     .000
                  out <=     1.0 01:KB-P2R        254.24   17.126 No_date   28:11   42.08  n/a     .000
             overflow <=     1.0 03:KB-P2ovf         .00     .000 No_date    0:00     .00  n/a     .000
        {MxStoUsed=.9755E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-P2R        254.24   17.126 No_date   28:11   42.08  n/a     .000
                        +    1.0 02:KB-P2ovf         .00     .000 No_date    0:00     .00  n/a     .000
                     SUM=    1.0 01:KB-Pond2      254.24   17.126 No_date   28:11   42.08  n/a     .000
 R0025:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:KB-Pond2      254.24   17.126 No_date   28:11   42.08  n/a     .000
         fname :KB-Pond2.0025
         remark:Total Flows at KB second pond
 R0025:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:KB-16_1         2.80     .551 No_date   28:01   60.44 .812     .000
         [XIMP=.75:TIMP=.75]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-Pond2      254.24   17.126 No_date   28:11   42.08  n/a     .000
                        +    1.0 02:KB-16_1         2.80     .551 No_date   28:01   60.44  n/a     .000
                     SUM=    1.0 01:KB-P3         257.04   17.347 No_date   28:10   42.28  n/a     .000
 R0025:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ROUTE RESERVOIR ->     1.0 02:KB-P3         257.04   17.347 No_date   28:10   42.28  n/a     .000
                  out <=     1.0 01:KB-P3R         10.42     .051 No_date   17:19   42.28  n/a     .000
             overflow <=     1.0 03:KB-P3ovf      246.62   17.293 No_date   28:10   42.28  n/a     .000
        {MxStoUsed=.1993E-02  m3, TotOvfVol=.1043E+02  m3, N-Ovf=    2, TotDurOvf=   23.hrs}
 R0025:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-P3R         10.42     .051 No_date   17:19   42.28  n/a     .000
                        +    1.0 02:KB-P3ovf      246.62   17.293 No_date   28:10   42.28  n/a     .000
                     SUM=    1.0 01:KB-Pond3      257.04   17.344 No_date   28:10   42.28  n/a     .000
 R0025:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:KB-Pond3      257.04   17.344 No_date   28:10   42.28  n/a     .000
         fname :KB-Pond3.0025
         remark:Total Flows at KB third pond
 #***************************************************************************
 #   EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
 #   - TO FRASER-CLARKE DRAIN
 #***************************************************************************
 R0025:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-01           8.03    1.288 No_date   28:01   44.33 .596     .000
         [XIMP=.47:TIMP=.47]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-01           8.03    1.288 No_date   28:01   44.33  n/a     .000
       Major System   /      1.0 02:FC-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:FC-01-MN        8.03     .756 No_date   28:25   44.53  n/a     .000
         {MjSysSto=.2943E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:FC-01-MN        8.03     .756 No_date   27:53   44.53  n/a     .000
                     SUM=    1.0 01:FC-01-S         8.03     .756 No_date   27:53   44.53  n/a     .000
 R0025:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-02          16.05    3.458 No_date   28:00   69.06 .928     .000
         [XIMP=.93:TIMP=.93]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-02          16.05    3.458 No_date   28:00   69.06  n/a     .000
       Major System   /      1.0 02:FC-02-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:FC-02-MN       16.05    1.159 No_date   27:44   69.13  n/a     .000
         {MjSysSto=.1941E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-02-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:FC-02-MN       16.05    1.159 No_date   27:44   69.13  n/a     .000
                     SUM=    1.0 01:FC-02-S        16.05    1.159 No_date   27:44   69.13  n/a     .000
 R0025:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-03           7.37    1.375 No_date   28:00   53.47 .719     .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-03           7.37    1.375 No_date   28:00   53.47  n/a     .000
       Major System   /      1.0 02:FC-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:FC-03-MN        7.37     .358 No_date   27:43   53.66  n/a     .000
         {MjSysSto=.9407E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:FC-03-MN        7.37     .358 No_date   27:43   53.66  n/a     .000
                     SUM=    1.0 01:FC-03-S         7.37     .358 No_date   27:43   53.66  n/a     .000
 R0025:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FC-04          12.87    2.308 No_date   28:01   53.47 .719     .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FC-04          12.87    2.308 No_date   28:01   53.47  n/a     .000
       Major System   /      1.0 02:FC-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:FC-04-MN       12.87     .741 No_date   27:45   53.74  n/a     .000
         {MjSysSto=.1387E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FC-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:FC-04-MN       12.87     .741 No_date   27:45   53.74  n/a     .000
                     SUM=    1.0 01:FC-04-S        12.87     .741 No_date   27:45   53.74  n/a     .000
 #***************************************************************************
 #   PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
 #   - TO JOCK RIVER
 #***************************************************************************
 R0025:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:JR-01           8.24    1.515 No_date   28:00   53.47 .719     .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:JR-01           8.24    1.515 No_date   28:00   53.47  n/a     .000
       Major System   /      1.0 02:JR-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:JR-01-MN        8.24     .563 No_date   28:50   53.74  n/a     .000
         {MjSysSto=.7433E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:JR-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:JR-01-MN        8.24     .563 No_date   27:45   53.74  n/a     .000
                     SUM=    1.0 01:JR-01-S         8.24     .563 No_date   27:45   53.74  n/a     .000
 R0025:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:JR-02           1.59     .316 No_date   28:00   53.47 .719     .000
         [XIMP=.64:TIMP=.64]
         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
 R0025:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:JR-02           1.59     .316 No_date   28:00   53.47  n/a     .000
       Major System   /      1.0 02:JR-02-MJ         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:JR-02-MN        1.59     .153 No_date   27:47   53.69  n/a     .000
         {MjSysSto=.9432E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:JR-02-MJ         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:JR-02-MN        1.59     .153 No_date   27:47   53.69  n/a     .000
                     SUM=    1.0 01:JR-02-S         1.59     .153 No_date   27:47   53.69  n/a     .000
 #***************************************************************************
 #    Catchment FRASER
 #    - To Fraser-Clarke drain (north of the Jock)
 #    - Developed land with assumed 43% imp.
 #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
 #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
 #***************************************************************************
 R0025:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS NASHYD      1.0 01:FRASER-DRN     13.65     .594 No_date   28:22   34.14 .459     .000
         [CN= 77.0: N= 3.00: Tp=  .43]
         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
         [InterEventTime=  12.00]
 R0025:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      CONTINUOUS STANDHYD    1.0 01:FRASER-D       21.61    3.258 No_date   28:01   56.29 .757     .000
         [XIMP=.58:TIMP=.58]
         [LOSS= 2 :CN= 80.0]
         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
         [IaRECimp=   4.00:  IaRECper=   4.00]
         [SMIN= 26.32: SMAX=175.50: SK= .010]
 R0025:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      COMPUTE DUALHYD        1.0 01:FRASER-D       21.61    3.258 No_date   28:01   56.29  n/a     .000
       Major System   /      1.0 02:FRASER-J         .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \      1.0 03:FRASER-N       21.61    2.281 No_date   27:55   56.43  n/a     .000
         {MjSysSto=.4729E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
 R0025:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:FRASER-J         .00     .000 No_date    0:00     .00  n/a     .000
                        +    1.0 02:FRASER-N       21.61    2.281 No_date   27:55   56.43  n/a     .000
                     SUM=    1.0 01:FRASER-S       21.61    2.281 No_date   27:55   56.43  n/a     .000
 R0025:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      ADD HYD                1.0 02:KB-Pond3      257.04   17.344 No_date   28:10   42.28  n/a     .000
                        +    1.0 02:S-1-B          55.36    2.311 No_date   28:23   34.14  n/a     .000
                        +    1.0 02:FRASER-DRN     13.65     .594 No_date   28:22   34.14  n/a     .000
                        +    1.0 02:FRASER-S       21.61    2.281 No_date   27:55   56.43  n/a     .000
                        +    1.0 02:N_KB        54279.37  103.026 No_date   38:57   29.03  n/a     .000
                        +    1.0 02:FC-01-S         8.03     .756 No_date   27:53   44.53  n/a     .000
                        +    1.0 02:FC-02-S        16.05    1.159 No_date   27:44   69.13  n/a     .000
                        +    1.0 02:FC-03-S         7.37     .358 No_date   27:43   53.66  n/a     .000
                     SUM=    1.0 01:4241        54658.48  103.518 No_date   38:57   29.12  n/a     .000
 R0025:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
      SAVE HYD               1.0 01:4241        54658.48  103.518 No_date   38:57   29.12  n/a     .000
         fname :4241.0025
         remark:Total Flows at Ken-Burnett Outlet
 # Hydrograph from Node Ken-Burnett to station 3633
 # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
 #
 R0025:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
```

```
     ROUTE CHANNEL   ->     1.0 02:4241          54658.48  103.518 No_date   38:57    29.12  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:4241-out      54658.48  103.664 No_date   38:36    29.12  n/a     .000
        [L/S/n=  294./ .109/.035]
        {Vmax= 1.253:Dmax= 2.209}
R0025:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:4241-out      54658.48  103.664 No_date   38:36    29.12  n/a     .000
                     +      1.0 02:FC-04-S          12.87     .741 No_date   27:45    53.74  n/a     .000
                     +      1.0 02:JR-01-S           8.24     .563 No_date   27:45    53.74  n/a     .000
                     +      1.0 02:JR-02-S           1.59     .153 No_date   27:47    53.69  n/a     .000
                  SUM=      1.0 01:SN_KB         54681.18  103.700 No_date   38:36    29.13  n/a     .000
R0025:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_KB         54681.18  103.700 No_date   38:36    29.13  n/a     .000
       fname :SN_KB.0025
       remark:Total Flows before Station 3633
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0025:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_KB         54681.18  103.700 No_date   38:36    29.13  n/a     .000
      [RDT= 1.00] out<-     1.0 01:N_TO          54681.18  103.546 No_date   39:00    29.13  n/a     .000
        [L/S/n=  608./ .247/.035]
        {Vmax= 1.675:Dmax= 1.657}
#*****************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#*****************************************************************************
R0025:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:Greenbank      36.60    5.574 No_date   28:02    58.33 .784     .000
       [XIMP=.64:TIMP=.68]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Greenbank      36.60    5.574 No_date   28:02    58.33  n/a     .000
                out <=      1.0 01:GreenB_MN      36.60    3.118 No_date   28:11    58.33  n/a     .000
           overflow <=      1.0 03:GreenB_MJ        .00     .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.8739E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_TO          54681.18  103.546 No_date   39:00    29.13  n/a     .000
                     +      1.0 02:GreenB_MJ         .00     .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:GreenB_MN       36.60    3.118 No_date   28:11    58.33  n/a     .000
                  SUM=      1.0 01:GreenB        54717.78  103.651 No_date   39:00    29.15  n/a     .000
R0025:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:GreenB        54717.78  103.651 No_date   39:00    29.15  n/a     .000
       fname :GreenB.0025
       remark:Total Flows at Greenbank Drain
#*****************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#*****************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MI") and remove it from Todd
R0025:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MN2        2.10     .339 No_date   28:00    53.59 .720     .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MN3         .12     .020 No_date   28:00    53.57 .720     .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MJ        30.23    4.269 No_date   28:02    55.13 .741     .000
       [XIMP=.52:TIMP=.64]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_ALL      112.91   13.312 No_date   28:05    53.38 .718     .000
       [XIMP=.52:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_P          3.06     .535 No_date   28:00    57.01 .766     .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0025:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MJ        30.23    4.269 No_date   28:02    55.13  n/a     .000
                out <=      1.0 01:TODD_MJn       29.48    3.314 No_date   27:57    55.13  n/a     .000
           overflow <=      1.0 03:TODD_MJj         .75     .946 No_date   28:03    55.13  n/a     .000
      {MxStoUsed=.1175E-03  m3, TotOvfVol=.4153E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0025:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN2        2.10     .339 No_date   28:00    53.59  n/a     .000
                out <=      1.0 01:TODD_MN2n       2.06     .268 No_date   27:54    53.60  n/a     .000
           overflow <=      1.0 03:TODD_MN2j        .04     .067 No_date   28:00    53.59  n/a     .000
      {MxStoUsed=.8415E-04  m3, TotOvfVol=.2217E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0025:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN3         .12     .020 No_date   28:00    53.58  n/a     .000
                out <=      1.0 01:TODD_MN3n        .11     .016 No_date   27:53    53.58  n/a     .000
           overflow <=      1.0 03:TODD_MN3j        .00     .004 No_date   28:00    53.58  n/a     .000
      {MxStoUsed=.1067E-03  m3, TotOvfVol=.1192E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0025:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A2             25.50    2.974 No_date   28:03    49.44 .665     .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A2             25.50    2.974 No_date   28:03    49.44  n/a     .000
      Major System   /      1.0 02:A2-MJ            .00     .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A2-MN          25.50    1.818 No_date   27:54    49.64  n/a     .000
       {MjSysSto=.8120E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:TODD_MN2n       2.06     .268 No_date   27:54    53.60  n/a     .000
                     +      1.0 02:TODD_MN3n        .11     .016 No_date   27:53    53.58  n/a     .000
                     +      1.0 02:TODD_MJj         .75     .946 No_date   28:03    55.13  n/a     .000
                     +      1.0 02:TODD_P          3.06     .535 No_date   28:00    57.01  n/a     .000
                     +      1.0 02:TODD_ALL      112.91   13.312 No_date   28:05    53.38  n/a     .000
                     +      1.0 02:W_CLAR_MIn      1.73     .213 No_date   27:54    52.78  n/a     .000
                  SUM=      1.0 01:TODD          120.62   14.962 No_date   28:03    53.48  n/a     .000
R0025:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:TODD          120.62   14.962 No_date   28:03    53.48  n/a     .000
       fname :TODD.0025
       remark:Total Flows at Todd Drain
#*****************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#*****************************************************************************
R0025:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD          120.62   14.962 No_date   28:03    53.48  n/a     .000
                out <=      1.0 01:MS_P3         120.62    9.717 No_date   28:14    53.48  n/a     .000
           overflow <=      1.0 03:P3-OVF           .00     .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.2619E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:GreenB        54717.78  103.651 No_date   39:00    29.15  n/a     .000
                     +      1.0 02:MS_P3         120.62    9.717 No_date   28:14    53.48  n/a     .000
                     +      1.0 02:P3-OVF           .00     .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:TODD_MN2j        .04     .067 No_date   28:00    53.59  n/a     .000
                     +      1.0 02:A2-MJ            .00     .000 No_date    0:00      .00  n/a     .000
                  SUM=      1.0 01:SN_TO         54838.44  103.908 No_date   39:00    29.21  n/a     .000
R0025:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_TO         54838.44  103.908 No_date   39:00    29.21  n/a     .000
       fname :SN_TO.0025
       remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0025:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_TO         54838.44  103.908 No_date   39:00    29.21  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:N_TO          54838.44  103.688 No_date   39:23    29.21  n/a     .000
        [L/S/n=  280./ .050/.045]
        {Vmax=  .905:Dmax= 3.151}
R0025:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:N_TO          54838.44  103.688 No_date   39:23    29.21  n/a     .000
       fname :N_TO.0025
       remark:Total inflows at Station 2462
#*****************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#*****************************************************************************
R0025:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:corr1          15.87    2.535 No_date   28:01    57.01 .766     .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0025:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:corr1          15.87    2.535 No_date   28:01    57.01  n/a     .000
      Major System   /      1.0 02:corr1-MJ         .00     .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:corr1-MN       15.87    1.818 No_date   28:15    57.37  n/a     .000
       {MjSysSto=.3150E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:corr2          12.47     .276 No_date   29:10    34.14 .459     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0025:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A1-Corrig      15.75    2.022 No_date   28:01    49.44 .665     .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A1-Corrig      15.75    2.022 No_date   28:01    49.44  n/a     .000
      Major System   /      1.0 02:A1-MJ            .00     .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A1-MN          15.75    1.818 No_date   27:58    49.57  n/a     .000
       {MjSysSto=.4966E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:B1              2.77     .097 No_date   28:09    21.19 .285     .000
       [CN= 56.0: N= 3.00: Tp=  .23]
       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
       [InterEventTime=  12.00]
R0025:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A4              1.27     .212 No_date   28:01    57.38 .771     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A4              1.27     .212 No_date   28:01    57.38  n/a     .000
      Major System   /      1.0 02:A4-MJ            .00     .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A4-MN           1.27     .212 No_date   28:01    57.38  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A1-MJ            .00     .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:A1-MN          15.75    1.818 No_date   27:58    49.57  n/a     .000
                     +      1.0 02:corr1-MJ         .00     .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:corr1-MN       15.87    1.818 No_date   28:15    57.37  n/a     .000
                     +      1.0 02:corr2          12.47     .276 No_date   29:10    34.14  n/a     .000
                     +      1.0 02:B1              2.77     .097 No_date   28:09    21.19  n/a     .000
                     +      1.0 02:A4-MN           1.27     .212 No_date   28:01    57.38  n/a     .000
                  SUM=      1.0 01:MH101          48.13    3.979 No_date   28:02    46.72  n/a     .000
R0025:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH101          48.13    3.979 No_date   28:02    46.72  n/a     .000
       fname :MH101.0025
       remark:Total Flows at MH101
R0025:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH101          48.13    3.979 No_date   28:02    46.72  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:101-102        48.13    3.953 No_date   28:05    46.72  n/a     .000
       [L/S/n=  368./ .540/.013]
       {Vmax= 3.134:Dmax= 1.114}
       [Din= 1.05:Dused= 1.36]
R0025:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A2-MN          25.50    1.818 No_date   27:54    49.64  n/a     .000
                     +      1.0 02:101-102        48.13    3.953 No_date   28:05    46.72  n/a     .000
                  SUM=      1.0 01:MH102          73.63    5.771 No_date   28:05    47.73  n/a     .000
R0025:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH102          73.63    5.771 No_date   28:05    47.73  n/a     .000
       fname :MH102.0025
       remark:Total Flows at MH102
R0025:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A5              1.60     .279 No_date   28:01    60.02 .807     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A4-MJ            .00     .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:A5              1.60     .279 No_date   28:01    60.02  n/a     .000
                  SUM=      1.0 01:A5T             1.60     .279 No_date   28:01    60.02  n/a     .000
R0025:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A5T             1.60     .279 No_date   28:01    60.02  n/a     .000
      Major System   /      1.0 02:A5-MJ            .00     .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A5-MN           1.60     .279 No_date   28:01    60.02  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH102          73.63    5.771 No_date   28:05    47.73  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:102-103        73.63    5.682 No_date   28:08    47.73  n/a     .000
       [L/S/n=  504./ .280/.013]
       {Vmax= 2.688:Dmax= 1.448}
       [Din= 1.50:Dused= 1.76]
R0025:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:102-103        73.63    5.682 No_date   28:08    47.73  n/a     .000
                     +      1.0 02:A5-MN           1.60     .279 No_date   28:01    60.02  n/a     .000
                  SUM=      1.0 01:MH103          75.23    5.850 No_date   28:06    47.99  n/a     .000
R0025:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH103          75.23    5.850 No_date   28:06    47.99  n/a     .000
       fname :MH103.0025
       remark:Total Flows at MH103
R0025:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH103          75.23    5.850 No_date   28:06    47.99  n/a     .000
      [RDT= 1.00] out<-     1.0 01:103-104        75.23    5.807 No_date   28:08    47.99  n/a     .000
       [L/S/n=  438./ .460/.013]
       {Vmax= 3.289:Dmax= 1.280}
       [Din= 1.65:Dused= 1.65]
R0025:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A6              1.56     .274 No_date   28:00    60.02 .807     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A5-MJ            .00     .000 No_date    0:00      .00  n/a     .000
                     +      1.0 02:A6              1.56     .274 No_date   28:00    60.02  n/a     .000
                  SUM=      1.0 01:A6T             1.56     .274 No_date   28:00    60.02  n/a     .000
R0025:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A6T             1.56     .274 No_date   28:00    60.02  n/a     .000
      Major System   /      1.0 02:A6-MJ            .00     .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:A6-MN           1.56     .274 No_date   28:00    60.02  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A6-MN           1.56     .274 No_date   28:00    60.02  n/a     .000
                     +      1.0 02:103-104        75.23    5.807 No_date   28:08    47.99  n/a     .000
                     +      1.0 02:TODD_MJn       29.48    3.314 No_date   27:57    55.13  n/a     .000
                  SUM=      1.0 01:MH104         106.27    9.269 No_date   28:06    50.14  n/a     .000
R0025:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH104         106.27    9.269 No_date   28:06    50.14  n/a     .000
       fname :MH104.0025
       remark:Total Flows at MH104
R0025:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B2             12.31    1.521 No_date   28:02    49.75 .669     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B2             12.31    1.521 No_date   28:02    49.75  n/a     .000
      Major System   /      1.0 02:B2-MJ            .00     .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:B2-MN          12.31    1.029 No_date   27:55    49.85  n/a     .000
       {MjSysSto=.2691E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:B2-MN          12.31    1.029 No_date   27:55    49.85  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:315-333        12.31    1.029 No_date   28:24    49.85  n/a     .000
       [L/S/n=  254./ .100/.013]
       {Vmax= 1.220:Dmax=  .838}
       [Din= 1.20:Dused= 1.20]
R0025:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B3              5.59     .715 No_date   28:02    49.75 .669     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0025:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B3              5.59     .715 No_date   28:02    49.75  n/a     .000
      Major System   /      1.0 02:B3-MJ            .00     .000 No_date    0:00      .00  n/a     .000
      Minor System   \      1.0 03:B3-MN           5.59     .459 No_date   27:54    49.80  n/a     .000
       {MjSysSto=.1451E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B3-MN           5.59     .459 No_date   27:54    49.80  n/a     .000
                     +      1.0 02:315-333        12.31    1.029 No_date   28:24    49.85  n/a     .000
                  SUM=      1.0 01:MH333          17.90    1.488 No_date   28:24    49.83  n/a     .000
R0025:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH333          17.90    1.488 No_date   28:24    49.83  n/a     .000
       fname :MH333.0025
       remark:Total Flows at MH333
R0025:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH333          17.90    1.488 No_date   28:24    49.83  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:333-335        17.90    1.485 No_date   28:24    49.83  n/a     .000
       [L/S/n=  251./ .100/.013]
       {Vmax= 1.302:Dmax= 1.057}
       [Din= 1.20:Dused= 1.29]
R0025:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:333-335        17.90    1.485 No_date   28:24    49.83  n/a     .000
 *    [RDT= 1.00] out<-     1.0 01:335-338        17.90    1.490 No_date   28:26    49.83  n/a     .000
       [L/S/n=  185./ .100/.013]
       {Vmax= 1.301:Dmax= 1.056}
       [Din= 1.20:Dused= 1.29]
R0025:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
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     ROUTE PIPE      ->     1.0 02:335-338       17.90     1.490 No_date    28:26    49.83  n/a      .000
      [RDT= 1.00] out<-     1.0 01:338-340       17.90     1.456 No_date    28:26    49.83  n/a      .000
       [L/S/n=  233./ .100/.013]
       {Vmax= 1.331:Dmax=  .985}
       [Din= 1.35:Dused= 1.35]
R0025:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B4              7.60      .960 No_date    28:02    49.75 .669     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B4              7.60      .960 No_date    28:02    49.75  n/a      .000
      Major System  /       1.0 02:B4-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:B4-MN           7.60      .655 No_date    27:55    50.00  n/a      .000
       {MjSysSto=.1611E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:338-340       17.90     1.456 No_date    28:26    49.83  n/a      .000
                      +     1.0 02:B4-MN           7.60      .655 No_date    27:55    50.00  n/a      .000
                   SUM=     1.0 01:MH340         25.50     2.104 No_date    28:18    49.88  n/a      .000
R0025:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH340         25.50     2.104 No_date    28:18    49.88  n/a      .000
       fname :MH340.0025
       remark:Total Flows at MH340
R0025:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH340         25.50     2.104 No_date    28:18    49.88  n/a      .000
      [RDT= 1.00] out<-     1.0 01:340-104       25.50     2.086 No_date    28:18    49.88  n/a      .000
       [L/S/n=  240./ .150/.013]
       {Vmax= 1.722:Dmax=  .917}
       [Din= 1.65:Dused= 1.65]
R0025:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:340-104       25.50     2.086 No_date    28:18    49.88  n/a      .000
                      +     1.0 02:MH104        106.27     9.269 No_date    28:06    50.14  n/a      .000
                   SUM=     1.0 01:MH104T       131.77    11.233 No_date    28:08    50.09  n/a      .000
R0025:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH104T       131.77    11.233 No_date    28:08    50.09  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:104-105      131.77    10.846 No_date    28:08    50.09  n/a      .000
       [L/S/n=  380./ .100/.013]
       {Vmax= 2.100:Dmax= 1.992}
       {HGTH= 2.35:WDTH= 2.68}
R0025:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B5              2.20      .346 No_date    28:00    53.85 .724     .000
       [XIMP=.57:TIMP=.57]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B5              2.20      .346 No_date    28:00    53.85  n/a      .000
      Major System  /       1.0 02:B5-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:B5-MN           2.20      .260 No_date    27:54    53.87  n/a      .000
       {MjSysSto=.3304E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A8               .96      .177 No_date    28:00    60.02 .807     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A6-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:A8               .96      .177 No_date    28:00    60.02  n/a      .000
                   SUM=     1.0 01:A8T              .96      .177 No_date    28:00    60.02  n/a      .000
R0025:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A8T              .96      .177 No_date    28:00    60.02  n/a      .000
      Major System  /       1.0 02:A8-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:A8-MN            .96      .177 No_date    28:00    60.02  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:104-105      131.77    10.846 No_date    28:08    50.09  n/a      .000
                      +     1.0 02:B5-MN           2.20      .260 No_date    27:54    53.87  n/a      .000
                      +     1.0 02:A8-MN            .96      .177 No_date    28:00    60.02  n/a      .000
                      +     1.0 02:TODD_MN3j        .00      .004 No_date    28:00    53.58  n/a      .000
                   SUM=     1.0 01:MH105        134.93    11.175 No_date    28:08    50.23  n/a      .000
R0025:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH105        134.93    11.175 No_date    28:08    50.23  n/a      .000
       fname :MH105.0025
       remark:Total Flows at MH105
R0025:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
 *   DIVERT HYD      ->     1.0 01:A8-MJ            .00      .000 No_date     0:00      .00  n/a      .000
            diverted <=     1.0 02:A8-MJ-JR         .00      .000 No_date     0:00      .00  n/a      .000
            diverted <=     1.0 03:A8-MJ-B6         .00      .000 No_date     0:00      .00  n/a      .000
R0025:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     DIVERT HYD      ->     1.0 01:MH105        134.93    11.175 No_date    28:08    50.23  n/a      .000
            diverted <=     1.0 02:MH105-JR      33.95     8.167 No_date    28:08    50.23  n/a      .000
            diverted <=     1.0 03:MH105-B6     100.98     3.008 No_date    28:08    50.23  n/a      .000
R0025:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B7              7.19      .975 No_date    28:01    49.75 .669     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B4-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:B7              7.19      .975 No_date    28:01    49.75  n/a      .000
                   SUM=     1.0 01:B7-B4MJ         7.19      .975 No_date    28:01    49.75  n/a      .000
R0025:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B7-B4MJ         7.19      .975 No_date    28:01    49.75  n/a      .000
      Major System  /       1.0 02:B7R-MJ           .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:B7R-MN          7.19      .629 No_date    27:53    50.01  n/a      .000
       {MjSysSto=.1702E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:B7R-MN          7.19      .629 No_date    27:53    50.01  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:360-106A        7.19      .629 No_date    28:21    50.01  n/a      .000
       [L/S/n=  167./ .100/.013]
       {Vmax= 1.089:Dmax=  .665}
       [Din= 1.05:Dused= 1.05]
R0025:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B6              3.29      .465 No_date    28:00    49.75 .669     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B6              3.29      .465 No_date    28:00    49.75  n/a      .000
      Major System  /       1.0 02:B6-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:B6-MN           3.29      .064 No_date    27:34    49.75  n/a      .000
       {MjSysSto=.5165E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:EX-LAND        32.50     4.063 No_date    28:02    50.08 .673     .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0025:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:EX-LAND        32.50     4.063 No_date    28:02    50.08  n/a      .000
      Major System  /       1.0 02:EX-LAND-MJ       .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:EX-LAND-MN     32.50     2.275 No_date    27:52    50.26  n/a      .000
       {MjSysSto=.1224E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B7R-MJ           .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:EX-LAND-MJ       .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:B5-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:B6-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:B6-MN           3.29      .064 No_date    27:34    49.75  n/a      .000
                      +     1.0 02:A8-MJ-B6         .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=     1.0 01:B6-B7ExMJ       3.29      .064 No_date    27:34    49.75  n/a      .000
R0025:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B6-B7ExMJ       3.29      .064 No_date    27:34    49.75  n/a      .000
      Major System  /       1.0 02:B6R-MJ           .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:B6R-MN          3.29      .064 No_date    27:34    49.75  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH105-B6     100.98     3.008 No_date    28:08    50.23  n/a      .000
      [RDT= 1.00] out<-     1.0 01:105-106A     100.98     3.018 No_date    28:02    50.23  n/a      .000
       [L/S/n=  208./ .100/.013]
       {Vmax= 1.597:Dmax= 1.249}
       [Din= 1.80:Dused= 1.80]
R0025:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:360-106A        7.19      .629 No_date    28:21    50.01  n/a      .000
                      +     1.0 02:105-106A     100.98     3.018 No_date    28:02    50.23  n/a      .000
                      +     1.0 02:B6R-MN          3.29      .064 No_date    27:34    49.75  n/a      .000
                      +     1.0 02:B6R-MJ           .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=     1.0 01:MH106A       111.46     3.702 No_date    28:02    50.20  n/a      .000
R0025:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106A       111.46     3.702 No_date    28:02    50.20  n/a      .000
       fname :MH106A.0025
       remark:Total Flows at MH106A
R0025:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH106A       111.46     3.702 No_date    28:02    50.20  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:106A-106     111.46     3.699 No_date    28:16    50.20  n/a      .000
       [L/S/n=  190./ .100/.013]
       {Vmax= 1.635:Dmax= 1.487}
       [Din= 1.80:Dused= 1.81]
R0025:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A9              2.44      .433 No_date    28:00    60.02 .807     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A9              2.44      .433 No_date    28:00    60.02  n/a      .000
      Major System  /       1.0 02:A9-MJ            .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:A9-MN           2.44      .433 No_date    28:00    60.02  n/a      .000
R0025:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106A-106     111.46     3.699 No_date    28:16    50.20  n/a      .000
                      +     1.0 02:A9-MN           2.44      .433 No_date    28:00    60.02  n/a      .000
                   SUM=     1.0 01:MH106        113.90     4.090 No_date    28:01    50.41  n/a      .000
R0025:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH106        113.90     4.090 No_date    28:01    50.41  n/a      .000
       fname :MH106.0025
       remark:Total Flows at MH106
R0025:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH106        113.90     4.090 No_date    28:01    50.41  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:106-107      113.90     4.067 No_date    28:03    50.41  n/a      .000
       [L/S/n=  123./ .100/.013]
       {Vmax= 1.676:Dmax= 1.544}
       [Din= 1.80:Dused= 1.88]
R0025:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A10             4.14      .526 No_date    28:01    46.81 .629     .000
       [XIMP=.35:TIMP=.47]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A10             4.14      .526 No_date    28:01    46.81  n/a      .000
      Major System  /       1.0 02:A10-MJ           .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:A10-MN          4.14      .310 No_date    27:52    46.90  n/a      .000
       {MjSysSto=.1196E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A11            10.61     1.511 No_date    28:01    54.09 .727     .000
       [XIMP=.53:TIMP=.62]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00404------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A11            10.61     1.511 No_date    28:01    54.09  n/a      .000
      Major System  /       1.0 02:A11-MJ           .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:A11-MN         10.61      .993 No_date    27:54    54.21  n/a      .000
       {MjSysSto=.2791E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00405------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:106-107      113.90     4.067 No_date    28:03    50.41  n/a      .000
                      +     1.0 02:A10-MN          4.14      .310 No_date    27:52    46.90  n/a      .000
                      +     1.0 02:A11-MN         10.61      .993 No_date    27:54    54.21  n/a      .000
                   SUM=     1.0 01:MH107        128.65     5.370 No_date    28:03    50.61  n/a      .000
R0025:C00406------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH107        128.65     5.370 No_date    28:03    50.61  n/a      .000
       fname :MH107.0025
       remark:Total Flows at MH107
R0025:C00407------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH107        128.65     5.370 No_date    28:03    50.61  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:107-119      128.65     5.374 No_date    28:04    50.61  n/a      .000
       [L/S/n=  114./ .120/.013]
       {Vmax= 1.922:Dmax= 1.653}
       [Din= 1.80:Dused= 2.01]
R0025:C00408------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:107-119      128.65     5.374 No_date    28:04    50.61  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:119-108      128.65     5.354 No_date    28:04    50.61  n/a      .000
       [L/S/n=   66./ .120/.013]
       {Vmax= 1.922:Dmax= 1.653}
       [Din= 1.80:Dused= 2.01]
R0025:C00409------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A12            12.29     1.704 No_date    28:01    49.75 .669     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00410------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A12            12.29     1.704 No_date    28:01    49.75  n/a      .000
      Major System  /       1.0 02:A12-MJ           .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:A12-MN         12.29     1.029 No_date    27:52    49.91  n/a      .000
       {MjSysSto=.3558E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00411------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A13             2.59      .435 No_date    28:01    60.02 .807     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00412------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A13             2.59      .435 No_date    28:01    60.02  n/a      .000
      Major System  /       1.0 02:A13-MJ           .00      .000 No_date     0:00      .00  n/a      .000
      Minor System  \       1.0 03:A13-MN          2.59      .435 No_date    28:01    60.02  n/a      .000
R0025:C00413------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Pond-Block      2.94      .375 No_date    28:00    47.01 .632     .000
       [XIMP=.41:TIMP=.41]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0025:C00414------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:119-108      128.65     5.354 No_date    28:04    50.61  n/a      .000
                      +     1.0 02:A13-MN          2.59      .435 No_date    28:01    60.02  n/a      .000
                      +     1.0 02:A12-MN         12.29     1.029 No_date    27:52    49.91  n/a      .000
                   SUM=     1.0 01:MH108        143.53     6.791 No_date    28:03    50.72  n/a      .000
R0025:C00415------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH108        143.53     6.791 No_date    28:03    50.72  n/a      .000
       fname :MH108.0025
       remark:Total Flows at MH108
R0025:C00416------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH108        143.53     6.791 No_date    28:03    50.72  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:108-116      143.53     6.772 No_date    28:04    50.72  n/a      .000
       [L/S/n=   77./ .130/.013]
       {Vmax= 2.100:Dmax= 1.778}
       [Din= 1.80:Dused= 2.17]
R0025:C00417------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:108-116      143.53     6.772 No_date    28:04    50.72  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:116-corrig   143.53     6.762 No_date    28:05    50.72  n/a      .000
       [L/S/n=   80./ .130/.013]
       {Vmax= 2.098:Dmax= 1.776}
       [Din= 1.80:Dused= 2.16]
R0025:C00418------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:116-corrig   143.53     6.762 No_date    28:05    50.72  n/a      .000
                      +     1.0 02:Pond-Block      2.94      .375 No_date    28:00    47.01  n/a      .000
                   SUM=     1.0 01:Corrigan     146.47     7.034 No_date    28:04    50.65  n/a      .000
R0025:C00419------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:Corrigan     146.47     7.034 No_date    28:04    50.65  n/a      .000
       fname :Corrigan.0025
       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0025:C00420------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Corrigan     146.47     7.034 No_date    28:04    50.65  n/a      .000
                 out <=     1.0 01:Co-P         146.47     6.458 No_date    28:16    50.64  n/a      .000
            overflow <=     1.0 03:Co-P-OVF         .00      .000 No_date     0:00      .00  n/a      .000
      {MxStoUsed=.1034E+01 m3, TotOvfVol=.0000E+00 m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00421------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:Co-P-OVF         .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:Co-P         146.47     6.458 No_date    28:16    50.64  n/a      .000
                      +     1.0 02:N_TO       54838.44   103.688 No_date    39:23    29.21  n/a      .000
                      +     1.0 02:MH105-JR      33.95     8.167 No_date    28:08    50.23  n/a      .000
                      +     1.0 02:A8-MJ-JR         .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:A9-MJ            .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:A10-MJ           .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:A11-MJ           .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:A12-MJ           .00      .000 No_date     0:00      .00  n/a      .000
                      +     1.0 02:A13-MJ           .00      .000 No_date     0:00      .00  n/a      .000
                   SUM=     1.0 01:corrig     55018.86   103.978 No_date    39:24    29.28  n/a      .000
R0025:C00422------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:corrig     55018.86   103.978 No_date    39:24    29.28  n/a      .000
       fname :corrig.0025
       remark:Total Flows at Corrigan Pond
#*****************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#*****************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0025:C00423------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:corrig     55018.86   103.978 No_date    39:24    29.28  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N_MI       55018.86   103.970 No_date    39:27    29.28  n/a      .000
       [L/S/n=  580./ .445/.045]
       {Vmax= 1.914:Dmax= 1.789}
#*****************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#*****************************************************************************
R0025:C00424------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:MILLS        175.99    15.275 No_date    28:07    44.62 .600     .000
       [XIMP=.38:TIMP=.38]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#*****************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#*****************************************************************************
R0025:C00425------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:MILLS        175.99    15.275 No_date    28:07    44.62  n/a      .000
                 out <=     1.0 01:MILL_P       162.60     4.050 No_date    28:16    44.62  n/a      .000
            overflow <=     1.0 03:MIL-OV        13.39     8.160 No_date    28:16    44.62  n/a      .000
      {MxStoUsed=.2310E+01 m3, TotOvfVol=.5973E+00 m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0025:C00426------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_MI       55018.86   103.970 No_date    39:27    29.28  n/a      .000
                      +     1.0 02:MIL-OV        13.39     8.160 No_date    28:16    44.62  n/a      .000
                      +     1.0 02:MILL_P       162.60     4.050 No_date    28:16    44.62  n/a      .000
                   SUM=     1.0 01:SN_MI      55194.86   104.359 No_date    39:26    29.33  n/a      .000
R0025:C00427------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_MI      55194.86   104.359 No_date    39:26    29.33  n/a      .000
       fname :SN_MI.0025
```

```
      remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0025:C00428-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->   1.0 02:SN_MI       55194.86  104.359 No_date   39:26   29.33  n/a     .000
    [RDT= 1.00] out<-   1.0 01:N_DE        55194.86  104.140 No_date   39:45   29.33  n/a     .000
     [L/S/n= 1962./ .223/.045]
     {Vmax= 1.483:Dmax= 2.264}
#**************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#**************************************************************************
R0025:C00429-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD  1.0 01:DESIRE          23.78    2.161 No_date   28:03   40.77 .548    .000
     [XIMP=.25:TIMP=.25]
     [LOSS= 2 :CN= 77.0]
     [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00: IaRECper=   4.00]
     [SMIN= 31.15: SMAX=207.66: SK= .010]
#**************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#**************************************************************************
R0025:C00430-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS STANDHYD  1.0 01:JOCKVA         225.13   21.797 No_date   28:07   50.08 .673    .000
     [XIMP=.50:TIMP=.50]
     [LOSS= 2 :CN= 74.0]
     [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
     [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
     [IaRECimp=   4.00: IaRECper=   4.00]
     [SMIN= 36.67: SMAX=244.49: SK= .010]
R0025:C00431-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD              1.0 02:EX-LAND-MN      32.50    2.275 No_date   27:52   50.26  n/a    .000
                  +     1.0 02:JOCKVA         225.13   21.797 No_date   28:07   50.08  n/a    .000
                  +     1.0 02:B2-MI             .00     .000 No_date    0:00     .00  n/a    .000
                  +     1.0 02:B3-MI             .00     .000 No_date    0:00     .00  n/a    .000
              SUM=      1.0 01:JOCKVA-TO      257.63   24.072 No_date   28:07   50.10  n/a    .000
R0025:C00432-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD             1.0 01:JOCKVA-TO      257.63   24.072 No_date   28:07   50.10  n/a    .000
      fname :JOCKVA-TO.0025
      remark:Total Flows at KB first pond
#**************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#**************************************************************************
R0025:C00433-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->   1.0 02:JOCKVA-TO      257.63   24.072 No_date   28:07   50.10  n/a    .000
               out <=   1.0 01:JOCK_P         257.63    9.145 No_date   28:37   50.10  n/a    .000
          overflow <=   1.0 03:JO-OVF            .00     .000 No_date    0:00     .00  n/a    .000
     {MxStoUsed=.5425E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0025:C00434-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD              1.0 02:N_DE        55194.86  104.140 No_date   39:45   29.33  n/a     .000
                  +     1.0 02:DESIRE          23.78    2.161 No_date   28:03   40.77  n/a     .000
                  +     1.0 02:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:JOCK_P         257.63    9.145 No_date   28:37   50.10  n/a     .000
              SUM=      1.0 01:SN_DE       55476.27  104.765 No_date   39:44   29.43  n/a     .000
R0025:C00435-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD             1.0 01:SN_DE       55476.27  104.765 No_date   39:44   29.43  n/a     .000
      fname :SN_DE.0025
      remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0025:C00436-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->   1.0 02:SN_DE       55476.27  104.765 No_date   39:44   29.43  n/a     .000
    [RDT= 1.00] out<-   1.0 01:N1          55476.27  104.757 No_date   39:48   29.43  n/a     .000
     [L/S/n=  563./ .967/.045]
     {Vmax= 1.941:Dmax= 1.134}
#**************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#**************************************************************************
R0025:C00437-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:S-2            102.94    3.971 No_date   28:20   30.13 .405    .000
     [CN= 72.0: N= 3.00: Tp=  .40]
     [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
     [InterEventTime=  12.00]
R0025:C00438-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD              1.0 02:N1          55476.27  104.757 No_date   39:48   29.43  n/a     .000
                  +     1.0 02:S-2            102.94    3.971 No_date   28:20   30.13  n/a     .000
              SUM=      1.0 01:SN_N1       55579.21  104.958 No_date   39:48   29.43  n/a     .000
R0025:C00439-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD             1.0 01:SN_N1       55579.21  104.958 No_date   39:48   29.43  n/a     .000
      fname :SN_N1.0025
      remark:Total Flows at Rideau River
##########################################################################
  ** END OF RUN :   49

*******************************************************************************************





 RUN#:COMMAND#
R0050:C00001-------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on       0]
      [METOUT=   2   (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0050 ]
#**************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#**************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date         : 04-03-2021
#  Modeller     : [M M]
#  Company      : JFSAinc.
#  License #    :  2549237
#**************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# -------------------------------------------------------------------------
R0050:C00002-------------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:50 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  81.51]
R0050:C00003-------------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  81.51]
R0050:C00004-------------------------------------------------------------------------------
     DEFAULT VALUES
      Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [Based onvarious calibration exercises in Onta
                 THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   4.67 mm] [N= 3.00]
      Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
      Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0050:C00005-------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax=113.33: APIavg= 67.14: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0050:C00006-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:JR_HW         3680.00   18.440 No_date   36:55   30.33 .372    .000
     [CN= 64.0: N= 3.00: Tp= 7.13]
     [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0050:C00007-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_13          971.00    6.937 No_date   32:34   28.27 .347    .000
     [CN= 61.0: N= 3.00: Tp= 3.76]
     [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00008-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:JR_GWM        3074.00    8.912 No_date   39:59   24.31 .298    .000
     [CN= 55.0: N= 3.00: Tp=11.33]
     [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
     [InterEventTime=  12.00]
R0050:C00009-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:JR_ASH        1781.00   16.834 No_date   32:39   36.85 .452    .000
     [CN= 72.0: N= 3.00: Tp= 3.91]
     [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
     [InterEventTime=  12.00]
R0050:C00010-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_11          500.00    9.061 No_date   29:21   31.73 .389    .000
     [CN= 66.0: N= 3.00: Tp= 1.24]
     [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00011-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:NN_CK         1917.00   12.342 No_date   34:26   31.73 .389    .000
     [CN= 66.0: N= 3.00: Tp= 5.29]
     [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0050:C00012-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_10         5666.00   32.402 No_date   37:52   36.85 .452    .000
     [CN= 72.0: N= 3.00: Tp= 8.00]
     [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0050:C00013-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:KG_CK         8376.00   31.024 No_date   39:59   31.73 .389    .000
     [CN= 66.0: N= 3.00: Tp=11.66]
     [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0050:C00014-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_9          1132.00   14.039 No_date   30:53   35.35 .434    .000
     [CN= 70.0: N= 3.00: Tp= 2.51]
     [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0050:C00015-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:NC_CK         4464.00   15.472 No_date   39:59   28.95 .355    .000
     [CN= 62.0: N= 3.00: Tp=11.32]
     [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0050:C00016-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_8           131.00    2.740 No_date   28:57   29.64 .364    .000
     [CN= 63.0: N= 3.00: Tp=  .90]
     [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0050:C00017-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:HB_DR         3854.00   18.180 No_date   38:32   31.73 .389    .000
     [CN= 66.0: N= 3.00: Tp= 8.42]
     [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0050:C00018-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_7          3197.00   13.937 No_date   36:23   25.61 .314    .000
     [CN= 57.0: N= 3.00: Tp= 6.65]
     [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0050:C00019-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_6           165.00    1.285 No_date   33:02   32.44 .398    .000
     [CN= 67.0: N= 3.00: Tp= 4.18]
     [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0050:C00020-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:VG_DR         1332.00    9.332 No_date   35:12   36.85 .452    .000
     [CN= 72.0: N= 3.00: Tp= 5.95]
     [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
     [InterEventTime=  12.00]
R0050:C00021-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_5           224.00    8.187 No_date   28:45   41.51 .509    .000
     [CN= 77.0: N= 3.00: Tp=  .75]
     [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0050:C00022-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:FL_CK         4945.00   44.623 No_date   33:18   38.37 .471    .000
     [CN= 74.0: N= 3.00: Tp= 4.45]
     [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
     [InterEventTime=  12.00]
R0050:C00023-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_5A2          20.00     .943 No_date   28:35   45.60 .560    .000
     [CN= 81.0: N= 3.00: Tp=  .62]
     [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
     [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0050:C00024-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_5A1        1412.00    8.794 No_date   37:48   39.93 .490    .000
     [CN= 75.0: N= 3.00: Tp= 8.00]
     [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
     [InterEventTime=  12.00]
R0050:C00025-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_4           585.00   12.896 No_date   29:55   45.60 .560    .000
     [CN= 81.0: N= 3.00: Tp= 1.75]
     [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
     [InterEventTime=  12.00]
R0050:C00026-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:LM_CK         1021.00   17.059 No_date   30:46   44.77 .549    .000
     [CN= 80.0: N= 3.00: Tp= 2.46]
     [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
     [InterEventTime=  12.00]
R0050:C00027-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SW_2           177.00    6.469 No_date   28:45   41.51 .509    .000
     [CN= 77.0: N= 3.00: Tp=  .75]
     [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
     [InterEventTime=  12.00]
R0050:C00028-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:SM_DR         1122.00   15.544 No_date   31:43   45.60 .560    .000
     [CN= 81.0: N= 3.00: Tp= 3.25]
     [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
     [InterEventTime=  12.00]
R0050:C00029-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   CONTINUOUS NASHYD    1.0 01:MO_DR         2737.00   34.946 No_date   31:29   40.72 .500    .000
     [CN= 76.0: N= 3.00: Tp= 3.03]
     [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
     [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0050:C00030-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD              1.0 02:JR_HW         3680.00   18.440 No_date   36:55   30.33  n/a    .000
                  +     1.0 02:SW_13          971.00    6.937 No_date   32:34   28.27  n/a    .000
              SUM=      1.0 01:S_N13         4651.00   23.559 No_date   35:24   29.90  n/a    .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0050:C00031-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->   1.0 02:S_N13         4651.00   23.559 No_date   35:24   29.90  n/a    .000
    [RDT= 1.00] out<-   1.0 01:N13A          4651.00   19.136 No_date   39:06   29.90  n/a    .000
     [L/S/n= 9074./ .022/.040]
     {Vmax=  .574:Dmax= 3.920}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0050:C00032-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ADD HYD              1.0 02:N13A          4651.00   19.136 No_date   39:06   29.90  n/a    .000
                  +     1.0 02:JR_GWM        3074.00    8.912 No_date   39:59   24.31  n/a    .000
              SUM=      1.0 01:SN13A         7725.00   27.939 No_date   39:54   27.68  n/a    .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0050:C00033-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE RESERVOIR ->   1.0 02:SN13A         7725.00   27.939 No_date   39:54   27.68  n/a    .000
               out <=   1.0 01:RES_GM        7725.00    3.808 No_date   61:35   27.67  n/a    .000
     {MxStoUsed=.1481E+03  m3}
#
R0050:C00034-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   SAVE HYD             1.0 01:RES_GM        7725.00    3.808 No_date   61:35   27.67  n/a    .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0050:C00035-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
   ROUTE CHANNEL   ->   1.0 02:RES_GM        7725.00    3.808 No_date   61:35   27.67  n/a    .000
    [RDT= 1.00] out<-   1.0 01:N12           7725.00    3.804 No_date   64:19   27.68  n/a    .000
     [L/S/n= 5926./ .076/.040]
     {Vmax=  .556:Dmax= 1.541}
#
```

```
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N12           7725.00    3.804 No_date   64:19   27.68  n/a      .000
                      +     1.0 02:JR_ASH        1781.00   16.834 No_date   32:39   36.85  n/a      .000
                   SUM=     1.0 01:S_N12         9506.00   18.867 No_date   32:42   29.39  n/a      .000
R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N12         9506.00   18.867 No_date   32:42   29.39  n/a      .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N12         9506.00   18.867 No_date   32:42   29.39  n/a      .000
     [RDT= 1.00] out<-      1.0 01:Dum11         9506.00   18.687 No_date   32:59   29.39  n/a      .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .751:Dmax= 3.029}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:Dum11         9506.00   18.687 No_date   32:59   29.39  n/a      .000
                      +     1.0 02:SW_11          500.00    9.061 No_date   29:21   31.73  n/a      .000
                      +     1.0 02:NN_CK         1917.00   12.342 No_date   34:26   31.73  n/a      .000
                   SUM=     1.0 01:S_N11        11923.00   32.851 No_date   33:00   29.87  n/a      .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N11        11923.00   32.851 No_date   33:00   29.87  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N10          11923.00   20.490 No_date   40:02   29.87  n/a      .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .474:Dmax= 1.423}
#
# Addition of Subwatershed 10 to Node 10
#
R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N10          11923.00   20.490 No_date   40:02   29.87  n/a      .000
                      +     1.0 02:SW_10         5666.00   32.402 No_date   37:52   36.85  n/a      .000
                   SUM=     1.0 01:S_N10        17589.00   52.600 No_date   38:19   32.12  n/a      .000
R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N10        17589.00   52.600 No_date   38:19   32.12  n/a      .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S_N10        17589.00   52.600 No_date   38:19   32.12  n/a      .000
                      +     1.0 02:KG_CK         8376.00   31.024 No_date   39:59   31.73  n/a      .000
                   SUM=     1.0 01:S_N10A       25965.00   82.746 No_date   39:45   31.99  n/a      .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N10A       25965.00   82.746 No_date   39:45   31.99  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N9           25965.00   80.980 No_date   39:59   31.99  n/a      .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .744:Dmax= 2.015}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N9           25965.00   80.980 No_date   39:59   31.99  n/a      .000
                      +     1.0 02:SW_9          1132.00   14.039 No_date   30:53   35.35  n/a      .000
                      +     1.0 02:NC_CK         4464.00   15.472 No_date   39:59   28.95  n/a      .000
                   SUM=     1.0 01:S_N9         31561.00   99.424 No_date   39:59   31.68  n/a      .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N9         31561.00   99.424 No_date   39:59   31.68  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N8           31561.00   93.665 No_date   39:59   31.68  n/a      .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .367:Dmax= 1.834}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N8           31561.00   93.665 No_date   39:59   31.68  n/a      .000
                      +     1.0 02:SW_8           131.00    2.740 No_date   28:57   29.64  n/a      .000
                      +     1.0 02:HB_DR         3854.00   18.180 No_date   38:32   31.73  n/a      .000
                   SUM=     1.0 01:S_N8         35546.00  111.843 No_date   39:59   31.68  n/a      .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N8         35546.00  111.843 No_date   39:59   31.68  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N7           35546.00   95.475 No_date   44:55   31.68  n/a      .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .231:Dmax= 2.290}
#
# Addition of Subwatershed 7 to Node 7
#
R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N7           35546.00   95.475 No_date   44:55   31.68  n/a      .000
                      +     1.0 02:SW_7          3197.00   13.937 No_date   36:23   25.61  n/a      .000
                   SUM=     1.0 01:S_N7         38743.00  102.892 No_date   43:46   31.18  n/a      .000
R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N7         38743.00  102.892 No_date   43:46   31.18  n/a      .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S_N7         38743.00  102.892 No_date   43:46   31.18  n/a      .000
                out <=      1.0 01:RES_RF       38743.00   52.029 No_date   59:07   31.18  n/a      .000
     {MxStoUsed=.4394E+03  m3}
R0050:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:RES_RF       38743.00   52.029 No_date   59:07   31.18  n/a      .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0050:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:RES_RF       38743.00   52.029 No_date   59:07   31.18  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N6           38743.00   51.784 No_date   60:27   31.18  n/a      .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .538:Dmax= 1.253}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0050:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N6           38743.00   51.784 No_date   60:27   31.18  n/a      .000
                      +     1.0 02:SW_6           165.00    1.285 No_date   33:02   32.44  n/a      .000
                      +     1.0 02:VG_DR         1332.00    9.332 No_date   35:12   36.85  n/a      .000
                   SUM=     1.0 01:S_N6         40240.01   51.810 No_date   60:20   31.37  n/a      .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0050:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N6         40240.01   51.810 No_date   60:20   31.37  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N5           40240.01   51.693 No_date   61:06   31.37  n/a      .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .469:Dmax= 1.351}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0050:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N5           40240.01   51.693 No_date   61:06   31.37  n/a      .000
                      +     1.0 02:SW_5           224.00    8.187 No_date   28:45   41.51  n/a      .000
                      +     1.0 02:FL_CK         4945.00   44.623 No_date   33:18   38.37  n/a      .000
                   SUM=     1.0 01:S_N5         45409.01   71.514 No_date   34:20   32.18  n/a      .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0050:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N5         45409.01   71.514 No_date   34:20   32.18  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N5A          45409.01   71.311 No_date   34:15   32.18  n/a      .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .530:Dmax= 1.290}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0050:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N5A          45409.01   71.311 No_date   34:15   32.18  n/a      .000
                      +     1.0 02:SW_5A2          20.00     .943 No_date   28:35   45.60  n/a      .000
                      +     1.0 02:SW_5A1        1412.00    8.794 No_date   37:48   39.93  n/a      .000
                   SUM=     1.0 01:S_N5A        46841.01   79.247 No_date   34:46   32.42  n/a      .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0050:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N5A        46841.01   79.247 No_date   34:46   32.42  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N4           46841.01   75.833 No_date   36:02   32.42  n/a      .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .874:Dmax= 3.702}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0050:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N4           46841.01   75.833 No_date   36:02   32.42  n/a      .000
                      +     1.0 02:SW_4           585.00   12.896 No_date   29:55   45.60  n/a      .000
                      +     1.0 02:LM_CK         1021.00   17.059 No_date   30:46   44.77  n/a      .000
                   SUM=     1.0 01:S_N4         48447.00   84.908 No_date   35:20   32.84  n/a      .000
R0050:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N4         48447.00   84.908 No_date   35:20   32.84  n/a      .000
      fname :S_N4.0050
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0050:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N4         48447.00   84.908 No_date   35:20   32.84  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N2           48447.00   84.582 No_date   35:30   32.84  n/a      .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .909:Dmax= 3.749}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0050:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N2           48447.00   84.582 No_date   35:30   32.84  n/a      .000
                      +     1.0 02:SW_2           177.00    6.469 No_date   28:45   41.51  n/a      .000
                      +     1.0 02:SM_DR         1122.00   15.544 No_date   31:43   45.60  n/a      .000
                      +     1.0 02:MO_DR         2737.00   34.946 No_date   31:29   40.72  n/a      .000
                   SUM=     1.0 01:S_N2         52483.00  124.249 No_date   32:52   33.56  n/a      .000
R0050:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:S_N2         52483.00  124.249 No_date   32:52   33.56  n/a      .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0050:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:S_N2         52483.00  124.249 No_date   32:52   33.56  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N_416        52483.00  120.589 No_date   33:57   33.56  n/a      .000
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .781:Dmax= 3.561}
#****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#****************************************************************************
R0050:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:SW_1a          536.42    6.175 No_date   31:15   35.39 .434      .000
      [CN= 72.0: N= 3.00: Tp= 2.79]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0050:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:S-1-Okeefe      44.93    7.341 No_date   28:03   63.95 .785      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:S-1-Okeefe      44.93    7.341 No_date   28:03   63.95  n/a      .000
     Major System  /        1.0 02:S-1-OkMJ          .00     .000 No_date    0:00     .00  n/a      .000
     Minor System  \        1.0 03:S-1-OkMN        44.93    4.591 No_date   27:54   64.28  n/a      .000
      {MjSysSto=.1733E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:S-1-OkMJ          .00     .000 No_date    0:00     .00  n/a      .000
                      +     1.0 02:S-1-OkMN        44.93    4.591 No_date   27:54   64.28  n/a      .000
                   SUM=     1.0 01:S-1-OkS         44.93    4.591 No_date   27:54   64.28  n/a      .000
R0050:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:S-1-OkS         44.93    4.591 No_date   27:54   64.28  n/a      .000
                out <=      1.0 01:S-1-OkSR        44.93     .521 No_date   29:25   64.28  n/a      .000
           overflow <=      1.0 03:S-1-OkSovf        .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1739E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N_416        52483.00  120.589 No_date   33:57   33.56  n/a      .000
                      +     1.0 02:SW_1a          536.42    6.175 No_date   31:15   35.39  n/a      .000
                      +     1.0 02:S-1-OkSR        44.93     .521 No_date   29:25   64.28  n/a      .000
                      +     1.0 02:S-1-OkSovf        .00     .000 No_date    0:00     .00  n/a      .000
                   SUM=     1.0 01:SN_416       53064.36  125.710 No_date   33:19   33.60  n/a      .000
R0050:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:SN_416       53064.36  125.710 No_date   33:19   33.60  n/a      .000
      fname :SN_416.0050
      remark:Total Flows at Highway 416 before Station 7245
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0050:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:SN_416       53064.36  125.710 No_date   33:19   33.60  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N_OK         53064.36  125.608 No_date   33:43   33.60  n/a      .000
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.650:Dmax= 3.041}
#****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#****************************************************************************
R0050:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-1             63.72    1.147 No_date   28:58   26.31 .323      .000
      [CN= 61.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
R0050:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:O-1             63.72    1.147 No_date   28:58   26.31  n/a      .000
     [RDT= 1.00] out<-      1.0 01:O-1R            63.72    1.084 No_date   29:14   26.31  n/a      .000
      [L/S/n=  960./ .630/.043]
      {Vmax=  .880:Dmax=  .445}
R0050:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-2             28.61     .404 No_date   29:13   24.30 .298      .000
      [CN= 57.0: N= 3.00: Tp= 1.10]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
R0050:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-4             46.94     .531 No_date   29:00   18.55 .228      .000
      [CN= 49.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
      [InterEventTime=  12.00]
R0050:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:O-1R            63.72    1.084 No_date   29:14   26.31  n/a      .000
                      +     1.0 02:O-2             28.61     .404 No_date   29:13   24.30  n/a      .000
                      +     1.0 02:O-4             46.94     .531 No_date   29:00   18.55  n/a      .000
                   SUM=     1.0 01:OKF-N          139.27    2.005 No_date   29:11   23.28  n/a      .000
R0050:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:OKF-N          139.27    2.005 No_date   29:11   23.28  n/a      .000
     [RDT= 1.00] out<-      1.0 01:OKF-NR         139.27    2.004 No_date   29:13   23.28  n/a      .000
      [L/S/n=  210./ .810/.043]
      {Vmax= 1.081:Dmax=  .751}
R0050:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-6             16.46     .179 No_date   28:45   15.94 .196      .000
      [CN= 43.0: N= 3.00: Tp=  .70]
      [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
      [InterEventTime=  12.00]
R0050:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:O-3             39.67    1.212 No_date   28:22   28.54 .350      .000
      [XIMP=.15:TIMP=.30]
      [LOSS= 2 :CN= 50.0]
      [Pervious      area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
      [Impervious    area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 99.77: SMAX=665.12: SK= .010]
R0050:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:O-5             60.63    3.085 No_date   28:10   32.89 .403      .000
      [XIMP=.13:TIMP=.26]
      [LOSS= 2 :CN= 61.0]
      [Pervious      area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
      [Impervious    area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 64.50: SMAX=430.01: SK= .010]
R0050:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:OKF-NR         139.27    2.004 No_date   29:13   23.28  n/a      .000
                      +     1.0 02:O-3             39.67    1.212 No_date   28:22   28.54  n/a      .000
                      +     1.0 02:O-5             60.63    3.085 No_date   28:10   32.89  n/a      .000
                      +     1.0 02:O-6             16.46     .179 No_date   28:45   15.94  n/a      .000
                   SUM=     1.0 01:PT1            256.03    4.968 No_date   28:20   25.90  n/a      .000
R0050:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:O-7              5.28     .096 No_date   28:37   21.46 .263      .000
      [CN= 54.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
      [InterEventTime=  12.00]
R0050:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:PT1            256.03    4.968 No_date   28:20   25.90  n/a      .000
                      +     1.0 02:O-7              5.28     .096 No_date   28:37   21.46  n/a      .000
                   SUM=     1.0 01:FF             261.31    5.051 No_date   28:20   25.81  n/a      .000
R0050:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:FF             261.31    5.051 No_date   28:20   25.81  n/a      .000
     [RDT= 1.00] out<-      1.0 01:DRAIN1         261.31    4.883 No_date   28:25   25.81  n/a      .000
      [L/S/n=  302./1.000/.043]
      {Vmax=  .822:Dmax=  .759}
R0050:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:D1               1.17     .094 No_date   28:12   43.70 .536      .000
      [CN= 84.0: N= 3.00: Tp=  .28]
      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
      [InterEventTime=  12.00]
R0050:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:A1               2.50     .517 No_date   28:01   64.42 .790      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
      [Pervious      area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
```

```
R0050:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A1              2.50      .517 No_date   28:01   64.42  n/a     .000
                out  <=    1.0 01:A1-STR          2.50      .146 No_date   28:19   64.42  n/a     .000
           overflow  <=    1.0 03:A1-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.7243E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-2             .59      .103 No_date   28:00   50.67 .622     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-2             .59      .103 No_date   28:00   50.67  n/a     .000
                out  <=    1.0 01:ST2STR           .59      .052 No_date   28:11   50.67  n/a     .000
           overflow  <=    1.0 03:ST2OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3952E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-8            60.55     1.383 No_date   29:04   33.66 .413     .000
       [CN= 69.0: N= 3.00: Tp= 1.00]
       [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
       [InterEventTime=  12.00]
R0050:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE       ->   1.0 02:O-8            60.55     1.383 No_date   29:04   33.66  n/a     .000
      [RDT= 1.00] out <-   1.0 01:O8PIPE         60.55     1.376 No_date   29:07   33.66  n/a     .000
       [L/S/n=  335./ .100/.013]
       {Vmax= 1.244:Dmax=  .617}
       {HGTH= 1.20:WDTH= 1.80}
R0050:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN1        261.31     4.883 No_date   28:25   25.81  n/a     .000
                   +       1.0 02:D1              1.17      .094 No_date   28:12   43.70  n/a     .000
                   +       1.0 02:A1-STR          2.50      .146 No_date   28:19   64.42  n/a     .000
                   +       1.0 02:A1-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:ST2STR           .59      .052 No_date   28:11   50.67  n/a     .000
                   +       1.0 02:ST2OVF           .00      .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:O8PIPE         60.55     1.376 No_date   29:07   33.66  n/a     .000
                 SUM=      1.0 01:ST2-IN        326.12     6.061 No_date   28:35   27.67  n/a     .000
R0050:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A7              3.51      .704 No_date   28:01   64.42 .790     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A7              3.51      .704 No_date   28:01   64.42  n/a     .000
                out  <=    1.0 01:A7-STR          3.51      .199 No_date   28:21   64.42  n/a     .000
           overflow  <=    1.0 03:A7-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1019E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-3             .71      .123 No_date   28:00   50.67 .622     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-3             .71      .123 No_date   28:00   50.67  n/a     .000
                out  <=    1.0 01:ST3STR           .71      .063 No_date   28:11   50.67  n/a     .000
           overflow  <=    1.0 03:ST3OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4527E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST2-IN        326.12     6.061 No_date   28:35   27.67  n/a     .000
                   +       1.0 02:A7-STR          3.51      .199 No_date   28:21   64.42  n/a     .000
                   +       1.0 02:A7-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:ST3STR           .71      .063 No_date   28:11   50.67  n/a     .000
                   +       1.0 02:ST3OVF           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:PT2ST3        330.34     6.299 No_date   28:33   28.11  n/a     .000
R0050:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:PT2ST3        330.34     6.299 No_date   28:33   28.11  n/a     .000
      [RDT= 1.00] out <-   1.0 01:DRAIN2        330.34     5.789 No_date   28:58   28.11  n/a     .000
       [L/S/n=  592./ .230/.043]
       {Vmax=  .593:Dmax= 1.152}
R0050:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D2              2.28      .074 No_date   29:02   43.70 .536     .000
       [CN= 84.0: N= 3.00: Tp=  .99]
       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
       [InterEventTime=  12.00]
R0050:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A17            12.04     2.163 No_date   28:03   64.42 .790     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A17            12.04     2.163 No_date   28:03   64.42  n/a     .000
                out  <=    1.0 01:A17STR         12.04      .654 No_date   28:27   64.42  n/a     .000
           overflow  <=    1.0 03:A17OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3445E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-4             .35      .063 No_date   28:00   50.67 .622     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-4             .35      .063 No_date   28:00   50.67  n/a     .000
                out  <=    1.0 01:ST4STR           .35      .031 No_date   28:10   50.67  n/a     .000
           overflow  <=    1.0 03:ST4OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2719E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A18             5.30     1.036 No_date   28:01   64.42 .790     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A18             5.30     1.036 No_date   28:01   64.42  n/a     .000
                out  <=    1.0 01:A18STR          5.30      .300 No_date   28:22   64.42  n/a     .000
           overflow  <=    1.0 03:A18OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.1532E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN2        330.34     5.789 No_date   28:58   28.11  n/a     .000
                   +       1.0 02:D2              2.28      .074 No_date   29:02   43.70  n/a     .000
                   +       1.0 02:A17STR         12.04      .654 No_date   28:27   64.42  n/a     .000
                   +       1.0 02:A17OVF           .00      .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:ST4STR           .35      .031 No_date   28:10   50.67  n/a     .000
                   +       1.0 02:ST4OVF           .00      .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:A18STR          5.30      .300 No_date   28:22   64.42  n/a     .000
                   +       1.0 02:A18OVF           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:PT3ST4        350.31     6.632 No_date   28:55   30.03  n/a     .000
R0050:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:PT3ST4        350.31     6.632 No_date   28:55   30.03  n/a     .000
      [RDT= 1.00] out <-   1.0 01:DRAIN3        350.31     6.350 No_date   29:11   30.03  n/a     .000
       [L/S/n=  525./ .230/.043]
       {Vmax=  .613:Dmax= 1.197}
R0050:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D3              2.51      .113 No_date   28:43   47.27 .580     .000
       [CN= 86.0: N= 3.00: Tp=  .73]
       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
       [InterEventTime=  12.00]
R0050:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C1              3.41      .690 No_date   28:01   64.42 .790     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C1              3.41      .690 No_date   28:01   64.42  n/a     .000
                out  <=    1.0 01:C1-STR          3.41      .194 No_date   28:20   64.42  n/a     .000
           overflow  <=    1.0 03:C1-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.9900E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-5             .45      .079 No_date   28:00   50.67 .622     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-5             .45      .079 No_date   28:00   50.67  n/a     .000
                out  <=    1.0 01:ST5STR           .45      .040 No_date   28:10   50.67  n/a     .000
           overflow  <=    1.0 03:ST5OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3164E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN3        350.31     6.350 No_date   29:11   30.03  n/a     .000
                   +       1.0 02:D3              2.51      .113 No_date   28:43   47.27  n/a     .000
                   +       1.0 02:C1-STR          3.41      .194 No_date   28:20   64.42  n/a     .000
                   +       1.0 02:C1-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:ST5STR           .45      .040 No_date   28:10   50.67  n/a     .000
                   +       1.0 02:ST5OVF           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:ST5-E         356.68     6.575 No_date   29:09   30.51  n/a     .000
R0050:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:STRAND          7.59     1.038 No_date   28:09   62.95 .772     .000
       [XIMP=.64:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:STRAND          7.59     1.038 No_date   28:09   62.95  n/a     .000
                out  <=    1.0 01:S-POND          7.59      .137 No_date   29:13   62.95  n/a     .000
           overflow  <=    1.0 03:S-OVF            .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3159E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST5-E         356.68     6.575 No_date   29:09   30.51  n/a     .000
                   +       1.0 02:S-POND          7.59      .137 No_date   29:13   62.95  n/a     .000
                   +       1.0 02:S-OVF            .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:SSAOUT        364.27     6.711 No_date   29:09   31.19  n/a     .000
R0050:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SSAOUT        364.27     6.711 No_date   29:09   31.19  n/a     .000
       fname :SSAOUT.0050
       remark:SSAOUT
R0050:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Area-A         66.75     8.917 No_date   28:08   61.83 .759     .000
       [XIMP=.64:TIMP=.80]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:Area-A         66.75     8.917 No_date   28:08   61.83  n/a     .000
       fname :Area-A.0050
       remark:SMWF-A Inflow
R0050:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Area-A         66.75     8.917 No_date   28:08   61.83  n/a     .000
                out  <=    1.0 01:SWMF-A         66.75     1.070 No_date   29:16   61.83  n/a     .000
           overflow  <=    1.0 03:SWMAOV           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2845E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SWMF-A         66.75     1.070 No_date   29:16   61.83  n/a     .000
       fname :SWMF-A.0050
       remark:SMWF-A Outflow
R0050:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:SSAOUT        364.27     6.711 No_date   29:09   31.19  n/a     .000
                   +       1.0 02:SWMF-A         66.75     1.070 No_date   29:16   61.83  n/a     .000
                   +       1.0 02:SWMAOV           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:PT4ST5        431.02     7.776 No_date   29:10   35.93  n/a     .000
R0050:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C6              1.87      .395 No_date   28:01   64.42 .790     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C6              1.87      .395 No_date   28:01   64.42  n/a     .000
                out  <=    1.0 01:C6-STR          1.87      .110 No_date   28:18   64.42  n/a     .000
           overflow  <=    1.0 03:C6-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.5452E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C7              1.62      .347 No_date   28:00   64.42 .790     .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C7              1.62      .347 No_date   28:00   64.42  n/a     .000
                out  <=    1.0 01:C7-STR          1.62      .096 No_date   28:17   64.42  n/a     .000
           overflow  <=    1.0 03:C7-OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.4698E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-6             .41      .073 No_date   28:00   50.67 .622     .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-6             .41      .073 No_date   28:00   50.67  n/a     .000
                out  <=    1.0 01:ST6STR           .41      .036 No_date   28:10   50.67  n/a     .000
           overflow  <=    1.0 03:ST6OVF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.3103E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT4ST5        431.02     7.776 No_date   29:10   35.93  n/a     .000
                   +       1.0 02:C6-STR          1.87      .110 No_date   28:18   64.42  n/a     .000
                   +       1.0 02:C6-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:C7-STR          1.62      .096 No_date   28:17   64.42  n/a     .000
                   +       1.0 02:C7-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:ST6STR           .41      .036 No_date   28:10   50.67  n/a     .000
                   +       1.0 02:ST6OVF           .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:PT5ST6        434.92     7.904 No_date   29:09   36.17  n/a     .000
R0050:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:PT5ST6        434.92     7.904 No_date   29:09   36.17  n/a     .000
      [RDT= 1.00] out <-   1.0 01:DRAIN4        434.92     7.615 No_date   29:20   36.17  n/a     .000
       [L/S/n=  324./ .100/.043]
       {Vmax=  .490:Dmax= 1.531}
R0050:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D4              1.73      .097 No_date   28:34   50.14 .615     .000
       [CN= 88.0: N= 3.00: Tp=  .60]
       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
       [InterEventTime=  12.00]
R0050:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:Area-B         24.04     4.418 No_date   28:02   60.51 .742     .000
       [XIMP=.62:TIMP=.77]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:Area-B         24.04     4.418 No_date   28:02   60.51  n/a     .000
                out  <=    1.0 01:SWMF-B         24.04      .566 No_date   28:42   60.51  n/a     .000
           overflow  <=    1.0 03:SWMBOVF          .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.8944E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN4        434.92     7.615 No_date   29:20   36.17  n/a     .000
                   +       1.0 02:D4              1.73      .097 No_date   28:34   50.14  n/a     .000
                   +       1.0 02:SWMF-B         24.04      .566 No_date   28:42   60.51  n/a     .000
                   +       1.0 02:SWMBOVF          .00      .000 No_date    0:00     .00  n/a     .000
                 SUM=      1.0 01:D4-EX         460.69     8.190 No_date   29:19   37.49  n/a     .000
R0050:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:D4-EX         460.69     8.190 No_date   29:19   37.49  n/a     .000
      [RDT= 1.00] out <-   1.0 01:DRAIN5        460.69     8.038 No_date   29:27   37.49  n/a     .000
       [L/S/n=  413./ .160/.033]
       {Vmax=  .675:Dmax= 1.051}
R0050:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D5              1.90      .089 No_date   28:40   47.27 .580     .000
       [CN= 86.0: N= 3.00: Tp=  .69]
       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
       [InterEventTime=  12.00]
R0050:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-13SDF         9.74      .578 No_date   28:21   44.42 .545     .000
       [CN= 81.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0050:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:O-13SDF         9.74      .578 No_date   28:21   44.42  n/a     .000
                out  <=    1.0 01:SDF             9.74      .061 No_date   30:55   44.42  n/a     .000
           overflow  <=    1.0 03:OVFSDF           .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.2427E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN5        460.69     8.038 No_date   29:27   37.49  n/a     .000
                   +       1.0 02:D5              1.90      .089 No_date   28:40   47.27  n/a     .000
                   +       1.0 02:SDF             9.74      .061 No_date   30:55   44.42  n/a     .000
                 SUM=      1.0 01:PT6MC         472.33     8.151 No_date   29:27   37.68  n/a     .000
R0050:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-15           10.67      .800 No_date   28:13   43.28 .531     .000
       [CN= 82.0: N= 3.00: Tp=  .30]
       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
       [InterEventTime=  12.00]
R0050:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT6MC         472.33     8.151 No_date   29:27   37.68  n/a     .000
                   +       1.0 02:O-15           10.67      .800 No_date   28:13   43.28  n/a     .000
                 SUM=      1.0 01:M-C           483.00     8.281 No_date   29:26   37.80  n/a     .000
R0050:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->   1.0 02:M-C           483.00     8.281 No_date   29:26   37.80  n/a     .000
      [RDT= 1.00] out <-   1.0 01:O-14Ch        483.00     7.494 No_date   29:58   37.80  n/a     .000
       [L/S/n=  845./ .100/.033]
       {Vmax=  .549:Dmax= 1.780}
R0050:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-14            5.00      .616 No_date   28:04   43.28 .531     .000
       [CN= 82.0: N= 3.00: Tp=  .13]
       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
       [InterEventTime=  12.00]
R0050:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:O-14Ch        483.00     7.494 No_date   29:58   37.80  n/a     .000
                   +       1.0 02:O-14            5.00      .616 No_date   28:04   43.28  n/a     .000
                 SUM=      1.0 01:OKEEFE        488.00     7.533 No_date   29:58   37.86  n/a     .000
#**************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#**************************************************************************
R0050:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D2         18.67     3.334 No_date   28:01   63.95 .785     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-D2         18.67     3.334 No_date   28:01   63.95  n/a     .000
      Major System  /      1.0 02:S-1-D2J          .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:S-1-D2N        18.67     2.097 No_date   27:53   64.33  n/a     .000
       {MjSysSto=.6757E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S-1-D2J          .00      .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:S-1-D2N        18.67     2.097 No_date   27:53   64.33  n/a     .000
                 SUM=      1.0 01:S-1-D2S        18.67     2.097 No_date   27:53   64.33  n/a     .000
R0050:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S-1-D2S        18.67     2.097 No_date   27:53   64.33  n/a     .000
                out  <=    1.0 01:S-1-D2R        18.67      .217 No_date   29:19   64.33  n/a     .000
           overflow  <=    1.0 03:S-1-D2Rovf       .00      .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.7233E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D3          6.79     1.304 No_date   28:00   63.95 .785     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-D3          6.79     1.304 No_date   28:00   63.95  n/a     .000
      Major System  /      1.0 02:S-1-D3J          .00      .000 No_date    0:00     .00  n/a     .000
      Minor System  \      1.0 03:S-1-D3N         6.79      .831 No_date   27:52   63.98  n/a     .000
       {MjSysSto=.2274E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
```

```
R0050:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D3J          .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-D3N         6.79      .831 No_date   27:52    63.98  n/a     .000
                 SUM=        1.0 01:S-1-D3S         6.79      .831 No_date   27:52    63.98  n/a     .000
R0050:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D3S         6.79      .831 No_date   27:52    63.98  n/a     .000
                out  <=      1.0 01:S-1-D3R         6.79      .078 No_date   29:16    63.98  n/a     .000
           overflow  <=      1.0 03:S-1-D3Rovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.2609E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_OK        53064.36   125.608 No_date   33:43    33.60  n/a     .000
                    +        1.0 02:OKEEFE        488.00     7.533 No_date   29:58    37.86  n/a     .000
                    +        1.0 02:S-1-D2R        18.67      .217 No_date   29:19    64.33  n/a     .000
                    +        1.0 02:S-1-D3R         6.79      .078 No_date   29:16    63.98  n/a     .000
                    +        1.0 02:S-1-D2Rovf       .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-D3Rovf       .00      .000 No_date    0:00      .00  n/a     .000
                 SUM=        1.0 01:SN_OK       53577.82   128.466 No_date   33:19    33.65  n/a     .000
R0050:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_OK       53577.82   128.466 No_date   33:19    33.65  n/a     .000
       fname :SN_OK.0050
       remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0050:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:SN_OK       53577.82   128.466 No_date   33:19    33.65  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_FO        53577.82   128.055 No_date   33:44    33.65  n/a     .000
       [L/S/n= 1183./ .076/.035]
       {Vmax= 1.240:Dmax= 3.378}
#*****************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#*****************************************************************************
R0050:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FOSTER         325.44    32.213 No_date   28:11    58.69 .720     .000
       [XIMP=.55:TIMP=.55]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
R0050:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:FOSTER        325.44    32.213 No_date   28:11    58.69  n/a     .000
                out  <=      1.0 01:P_FOS         325.44     8.155 No_date   29:03    58.69  n/a     .000
           overflow  <=      1.0 03:FO-OVF           .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.7887E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:P_FOS         325.44     8.155 No_date   29:03    58.69  n/a     .000
                    +        1.0 02:FO-OVF           .00      .000 No_date    0:00      .00  n/a     .000
                 SUM=        1.0 01:FOSTER-OUT    325.44     8.155 No_date   29:03    58.69  n/a     .000
#*****************************************************************************
R0050:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA      73.29    10.462 No_date   28:05    63.49 .779     .000
       [XIMP=.60:TIMP=.65]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:W_CLAR_BRA     73.29    10.462 No_date   28:05    63.49  n/a     .000
                out  <=      1.0 01:MS_P10         73.29     1.204 No_date   29:09    63.49  n/a     .000
           overflow  <=      1.0 03:P10-OVF          .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.1950E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2        4.94      .796 No_date   28:01    58.69 .720     .000
       [XIMP=.55:TIMP=.55]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0050:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-FO-D2       4.94      .796 No_date   28:01    58.69  n/a     .000
      Major System   /       1.0 02:S-1-FO-D2J       .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:S-1-FO-D2N      4.94      .508 No_date   27:53    58.77  n/a     .000
       {MjSysSto=.1462E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-FO-D2J       .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-FO-D2N      4.94      .508 No_date   27:53    58.77  n/a     .000
                 SUM=        1.0 01:S-1-FO-D2S      4.94      .508 No_date   27:53    58.77  n/a     .000
R0050:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-FO-D2S      4.94      .508 No_date   27:53    58.77  n/a     .000
                out  <=      1.0 01:S-1-FO-D2R      4.94      .052 No_date   29:33    58.76  n/a     .000
           overflow  <=      1.0 03:S-1FOD2ovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.1726E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:FOSTER-OUT    325.44     8.155 No_date   29:03    58.69  n/a     .000
                    +        1.0 02:S-1-FO-D2R      4.94      .052 No_date   29:33    58.76  n/a     .000
                    +        1.0 02:S-1FOD2ovf       .00      .000 No_date    0:00      .00  n/a     .000
                 SUM=        1.0 01:980           330.38     8.207 No_date   29:03    58.69  n/a     .000
R0050:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:980           330.38     8.207 No_date   29:03    58.69  n/a     .000
       fname :980.0050
       remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0050:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:980           330.38     8.207 No_date   29:03    58.69  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:980-out       330.38     7.836 No_date   29:23    58.69  n/a     .000
       [L/S/n=  460./ .043/.035]
       {Vmax=  .595:Dmax= 1.599}
R0050:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1        5.11      .927 No_date   28:00    63.41 .778     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0050:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-FO-D1       5.11      .927 No_date   28:00    63.41  n/a     .000
      Major System   /       1.0 02:S-1-FO-D1J       .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:S-1-FO-D1N      5.11      .605 No_date   28:17    63.68  n/a     .000
       {MjSysSto=.1586E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-FO-D1N      5.11      .605 No_date   27:53    63.68  n/a     .000
                    +        1.0 02:S-1-FO-D1J       .00      .000 No_date    0:00      .00  n/a     .000
                 SUM=        1.0 01:S-1-FO-D1S      5.11      .605 No_date   27:53    63.68  n/a     .000
R0050:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-FO-D1S      5.11      .605 No_date   27:53    63.68  n/a     .000
                out  <=      1.0 01:S-1-FO-D1R      5.11      .059 No_date   29:23    63.68  n/a     .000
           overflow  <=      1.0 03:S-1FOD1ovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.1952E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:980-out       330.38     7.836 No_date   29:23    58.69  n/a     .000
                    +        1.0 02:S-1-FO-D1R      5.11      .059 No_date   29:23    63.68  n/a     .000
                    +        1.0 02:S-1FOD1ovf       .00      .000 No_date    0:00      .00  n/a     .000
                 SUM=        1.0 01:520           335.49     7.895 No_date   29:23    58.77  n/a     .000
R0050:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:520           335.49     7.895 No_date   29:23    58.77  n/a     .000
       fname :520.0050
       remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0050:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:520           335.49     7.895 No_date   29:23    58.77  n/a     .000
      [RDT= 1.00] out<-      1.0 01:520-out       335.49     7.860 No_date   29:27    58.77  n/a     .000
       [L/S/n=  860./ .587/.035]
       {Vmax= 1.531:Dmax=  .760}
R0050:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D      14.96     2.535 No_date   28:01    63.41 .778     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0050:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-FO-F-D     14.96     2.535 No_date   28:01    63.41  n/a     .000
      Major System   /       1.0 02:S-1FO-F-DJ       .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:S-1FO-F-DN     14.96     1.615 No_date   27:53    63.62  n/a     .000
       {MjSysSto=.5006E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1FO-F-DJ       .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1FO-F-DN     14.96     1.615 No_date   27:53    63.62  n/a     .000
                 SUM=        1.0 01:S-1FO-F-DS     14.96     1.615 No_date   27:53    63.62  n/a     .000
R0050:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1FO-F-DS     14.96     1.615 No_date   27:53    63.62  n/a     .000
                out  <=      1.0 01:S-1FO-F-DR     14.96      .171 No_date   29:28    63.62  n/a     .000
           overflow  <=      1.0 03:S-1FoFDovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.5709E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D8           5.27     1.052 No_date   28:01    46.77 .574     .000
       [XIMP=.32:TIMP=.65]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D8          5.27     1.052 No_date   28:01    46.77  n/a     .000
      Major System   /       1.0 02:S-1-D8J          .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:S-1-D8N         5.27      .672 No_date   27:53    46.88  n/a     .000
       {MjSysSto=.2053E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D8J          .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-D8N         5.27      .672 No_date   27:53    46.88  n/a     .000
                 SUM=        1.0 01:S-1-D8S         5.27      .672 No_date   27:53    46.88  n/a     .000
R0050:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D8S         5.27      .672 No_date   27:53    46.88  n/a     .000
                out  <=      1.0 01:S-1-D8R         5.27      .055 No_date   28:46    46.88  n/a     .000
           overflow  <=      1.0 03:S-1-D8Rovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.1843E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:S-1-A          75.88     3.042 No_date   28:36    39.91 .490     .000
       [CN= 77.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0050:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:W_CLAR_UND     35.65      .943 No_date   29:10    39.91 .490     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0050:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_FO        53577.82   128.055 No_date   33:44    33.65  n/a     .000
                    +        1.0 02:520-out       335.49     7.860 No_date   29:27    58.77  n/a     .000
                    +        1.0 02:MS_P10         73.29     1.204 No_date   29:09    63.49  n/a     .000
                    +        1.0 02:P10-OVF          .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:W_CLAR_UND     35.65      .943 No_date   29:10    39.91  n/a     .000
                    +        1.0 02:S-1FoFDovf       .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1FO-F-DR     14.96      .171 No_date   29:28    63.62  n/a     .000
                    +        1.0 02:S-1-D8Rovf       .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-D8R         5.27      .055 No_date   28:46    46.88  n/a     .000
                    +        1.0 02:S-1-A          75.88     3.042 No_date   28:36    39.91  n/a     .000
                 SUM=        1.0 01:SN_FO       54118.36   133.255 No_date   33:20    33.87  n/a     .000
R0050:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_FO       54118.36   133.255 No_date   33:20    33.87  n/a     .000
       fname :SN_FO.0050
       remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0050:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:SN_FO       54118.36   133.255 No_date   33:20    33.87  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:N_CE        54118.36   133.007 No_date   33:45    33.87  n/a     .000
       [L/S/n=  159./ .082/.035]
       {Vmax= 1.438:Dmax= 4.182}
#*****************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#*****************************************************************************
R0050:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:S-1-B          55.36     2.770 No_date   28:23    39.91 .490     .000
       [CN= 77.0: N= 3.00: Tp=  .45]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0050:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D1          21.67     3.809 No_date   28:01    63.95 .785     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D1         21.67     3.809 No_date   28:01    63.95  n/a     .000
      Major System   /       1.0 02:S-1-D1J          .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:S-1-D1N        21.67     2.409 No_date   27:53    64.14  n/a     .000
       {MjSysSto=.7710E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D1J          .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-D1N        21.67     2.409 No_date   27:53    64.14  n/a     .000
                 SUM=        1.0 01:S-1-D1S        21.67     2.409 No_date   27:53    64.14  n/a     .000
R0050:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D1S        21.67     2.409 No_date   27:53    64.14  n/a     .000
                out  <=      1.0 01:S-1-D1R        21.67      .250 No_date   29:21    64.14  n/a     .000
           overflow  <=      1.0 03:S-1-D1Rovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.8355E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D4           3.28      .652 No_date   28:00    63.95 .785     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D4          3.28      .652 No_date   28:00    63.95  n/a     .000
      Major System   /       1.0 02:S-1-D4J          .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:S-1-D4N         3.28      .421 No_date   27:52    63.99  n/a     .000
       {MjSysSto=.1072E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D4J          .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-D4N         3.28      .421 No_date   27:52    63.99  n/a     .000
                 SUM=        1.0 01:S-1-D4S         3.28      .421 No_date   27:52    63.99  n/a     .000
R0050:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D4S         3.28      .421 No_date   27:52    63.99  n/a     .000
                out  <=      1.0 01:S-1-D4R         3.28      .038 No_date   29:14    63.98  n/a     .000
           overflow  <=      1.0 03:S-1-D4Rovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.1260E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D5          12.84     2.360 No_date   28:01    63.95 .785     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D5         12.84     2.360 No_date   28:01    63.95  n/a     .000
      Major System   /       1.0 02:S-1-D5J          .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:S-1-D5N        12.84     1.500 No_date   27:53    64.12  n/a     .000
       {MjSysSto=.4409E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D5J          .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-D5N        12.84     1.500 No_date   27:53    64.12  n/a     .000
                 SUM=        1.0 01:S-1-D5S        12.84     1.500 No_date   27:53    64.12  n/a     .000
R0050:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D5S        12.84     1.500 No_date   27:53    64.12  n/a     .000
                out  <=      1.0 01:S-1-D5R        12.84      .148 No_date   29:18    64.12  n/a     .000
           overflow  <=      1.0 03:S-1-D5Rovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.4948E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D6           1.75      .357 No_date   28:00    63.95 .785     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D6          1.75      .357 No_date   28:00    63.95  n/a     .000
      Major System   /       1.0 02:S-1-D6J          .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:S-1-D6N         1.75      .232 No_date   27:52    64.46  n/a     .000
       {MjSysSto=.5657E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D6J          .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-D6N         1.75      .232 No_date   27:52    64.46  n/a     .000
                 SUM=        1.0 01:S-1-D6S         1.75      .232 No_date   27:52    64.46  n/a     .000
R0050:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D6S         1.75      .232 No_date   27:52    64.46  n/a     .000
                out  <=      1.0 01:S-1-D6R         1.75      .020 No_date   29:11    64.45  n/a     .000
           overflow  <=      1.0 03:S-1-D6Rovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.6799E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-D7           2.03      .411 No_date   28:00    63.95 .785     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D7          2.03      .411 No_date   28:00    63.95  n/a     .000
      Major System   /       1.0 02:S-1-D7J          .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:S-1-D7N         2.03      .265 No_date   27:52    64.19  n/a     .000
       {MjSysSto=.6624E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D7J          .00      .000 No_date    0:00      .00  n/a     .000
                    +        1.0 02:S-1-D7N         2.03      .265 No_date   27:52    64.19  n/a     .000
                 SUM=        1.0 01:S-1-D7S         2.03      .265 No_date   27:52    64.19  n/a     .000
R0050:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D7S         2.03      .265 No_date   27:52    64.19  n/a     .000
                out  <=      1.0 01:S-1-D7R         2.03      .024 No_date   29:12    64.19  n/a     .000
           overflow  <=      1.0 03:S-1-D7Rovf       .00      .000 No_date    0:00      .00  n/a     .000
      {MxStoUsed=.7835E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#*****************************************************************************
R0050:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:W_CLAR_MI        1.77      .319 No_date   28:00    59.44 .729     .000
       [XIMP=.46:TIMP=.59]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0050:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:W_CLAR_MI       1.77      .319 No_date   28:00    59.44  n/a     .000
                out  <=      1.0 01:W_CLAR_MIn      1.70      .213 No_date   27:53    59.44  n/a     .000
           overflow  <=      1.0 03:W_CLAR_MIj       .08      .102 No_date   28:01    59.44  n/a     .000
      {MxStoUsed=.1125E-03  m3, TotOvfVol=.4485E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
```

```
R0050:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL    119.40    17.358 No_date   28:04   63.49 .779     .000
       [XIMP=.60:TIMP=.65]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0050:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:W_CLAR_ALL    119.40    17.358 No_date   28:04   63.49  n/a     .000
                       +   1.0 02:W_CLAR_MJj       .08      .102 No_date   28:01   59.44  n/a     .000
                    SUM=   1.0 01:W_CLAR        119.47    17.371 No_date   28:04   63.49  n/a     .000
R0050:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:W_CLAR        119.47    17.371 No_date   28:04   63.49  n/a     .000
       fname :W_CLAR.0050
       remark:Total Flows to West Clarke
#****************************************************************************
#     West Clarke Pond 2
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 2 = 241 ha
#****************************************************************************
R0050:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:W_CLAR        119.47    17.371 No_date   28:04   63.49  n/a     .000
                out <=     1.0 01:MS_P2         119.47    10.246 No_date   28:16   63.49  n/a     .000
           overflow <=     1.0 03:P2-OVF           .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.3076E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
#****************************************************************************
R0050:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_CE        54118.36   133.007 No_date   33:45   33.87  n/a     .000
                       +   1.0 02:S-1-D4R         3.28      .038 No_date   29:14   63.98  n/a     .000
                       +   1.0 02:S-1-D5R        12.84      .148 No_date   29:18   64.12  n/a     .000
                       +   1.0 02:S-1-D4Rovf       .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:S-1-D5Rovf       .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:MS_P2         119.47    10.246 No_date   28:16   63.49  n/a     .000
                       +   1.0 02:P2-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                    SUM=   1.0 01:SN_CE       54253.95   134.004 No_date   33:44   33.95  n/a     .000
R0050:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_CE       54253.95   134.004 No_date   33:44   33.95  n/a     .000
       fname :SN_CE.0050
       remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0050:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_CE       54253.95   134.004 No_date   33:44   33.95  n/a     .000
  *   [RDT= 1.00] out<-    1.0 01:5737        54253.95   125.921 No_date   35:58   33.95  n/a     .000
       [L/S/n=  270./ .018/.035]
       {Vmax=  .827:Dmax= 5.276}
R0050:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:5737        54253.95   125.921 No_date   35:58   33.95  n/a     .000
                       +   1.0 02:S-1-D1R        21.67      .250 No_date   29:21   64.14  n/a     .000
                       +   1.0 02:S-1-D6R         1.75      .020 No_date   29:11   64.45  n/a     .000
                       +   1.0 02:S-1-D7R         2.03      .024 No_date   29:12   64.19  n/a     .000
                       +   1.0 02:S-1-D1Rovf       .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:S-1-D6Rovf       .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:S-1-D7Rovf       .00      .000 No_date    0:00     .00  n/a     .000
                    SUM=   1.0 01:5002        54279.41   126.128 No_date   35:58   33.96  n/a     .000
R0050:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:5002        54279.41   126.128 No_date   35:58   33.96  n/a     .000
       fname :5002.0050
       remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0050:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:5002        54279.41   126.128 No_date   35:58   33.96  n/a     .000
  *   [RDT= 1.00] out<-    1.0 01:N_WCa       54279.41   126.118 No_date   36:03   33.96  n/a     .000
       [L/S/n=  245./ .095/.035]
       {Vmax= 1.266:Dmax= 2.967}
R0050:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:N_WCa       54279.41   126.118 No_date   36:03   33.96  n/a     .000
  *   [RDT= 1.00] out<-    1.0 01:N_WCb       54279.41   126.102 No_date   36:10   33.96  n/a     .000
       [L/S/n=  245./ .095/.035]
       {Vmax= 1.266:Dmax= 2.967}
R0050:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:N_WCb       54279.41   126.102 No_date   36:10   33.96  n/a     .000
  *   [RDT= 1.00] out<-    1.0 01:N_WC        54279.41   125.986 No_date   36:27   33.96  n/a     .000
       [L/S/n=  245./ .095/.035]
       {Vmax= 1.266:Dmax= 2.967}
#****************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0050:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:N_WC        54279.41   125.986 No_date   36:27   33.96  n/a     .000
  *   [RDT= 1.00] out<-    1.0 01:N_KB        54279.41   125.695 No_date   36:19   33.96  n/a     .000
       [L/S/n= 1020./ .050/.035]
       {Vmax= 1.123:Dmax= 3.747}
#****************************************************************************
#     Catchment KEN_BU
#     - To Kennedy-Burnett SWM Facility
#     - Outlets to Fraser-Clarke drain (north of the Jock)
#     - Medium density residential subdivision
#****************************************************************************
#****************************************************************************
#    Existing Kennedy-Burnett SWM Facility
#     - Rating curve obtained from URTKBP
#     - Tributary Drainage Area to Pond = 160 ha
#****************************************************************************
R0050:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01A         40.82     4.812 No_date   28:10   33.07 .406     .000
       [XIMP=.10:TIMP=.40]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01A         40.82     4.812 No_date   28:10   33.07  n/a     .000
      Major System   /     1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-01A-MN      40.82     3.600 No_date   28:00   33.14  n/a     .000
       {MjSysSto=.1012E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-01A-MN      40.82     3.600 No_date   28:00   33.14  n/a     .000
                    SUM=   1.0 01:KB-01A-S       40.82     3.600 No_date   28:00   33.14  n/a     .000
R0050:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01B         31.10     3.541 No_date   28:07   36.47 .447     .000
       [XIMP=.19:TIMP=.38]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01B         31.10     3.541 No_date   28:07   36.47  n/a     .000
      Major System   /     1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-01B-MN      31.10     1.585 No_date   27:53   36.51  n/a     .000
       {MjSysSto=.2627E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-01B-MN      31.10     1.585 No_date   27:53   36.51  n/a     .000
                    SUM=   1.0 01:KB-01B-S       31.10     1.585 No_date   27:53   36.51  n/a     .000
R0050:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01C         13.78     2.163 No_date   28:04   37.72 .463     .000
       [XIMP=.20:TIMP=.41]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01C         13.78     2.163 No_date   28:04   37.72  n/a     .000
      Major System   /     1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-01C-MN      13.78     1.350 No_date   27:55   37.86  n/a     .000
       {MjSysSto=.5764E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-01C-MN      13.78     1.350 No_date   27:55   37.86  n/a     .000
                    SUM=   1.0 01:KB-01C-S       13.78     1.350 No_date   27:55   37.86  n/a     .000
R0050:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-03          84.78    11.183 No_date   28:07   37.17 .456     .000
       [XIMP=.20:TIMP=.39]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-03          84.78    11.183 No_date   28:07   37.17  n/a     .000
      Major System   /     1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-03-MN       84.78     5.270 No_date   27:54   37.24  n/a     .000
       {MjSysSto=.6453E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-03-MN       84.78     5.270 No_date   27:54   37.24  n/a     .000
                    SUM=   1.0 01:KB-03-S        84.78     5.270 No_date   27:54   37.24  n/a     .000
R0050:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-04           6.95     1.592 No_date   28:00   71.86 .882     .000
       [XIMP=.85:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-04           6.95     1.592 No_date   28:00   71.86  n/a     .000
      Major System   /     1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-04-MN        6.95      .503 No_date   27:44   72.11  n/a     .000
       {MjSysSto=.9423E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-04-MN        6.95      .503 No_date   27:44   72.11  n/a     .000
                    SUM=   1.0 01:KB-04-S         6.95      .503 No_date   27:44   72.11  n/a     .000
R0050:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-05           5.19     1.270 No_date   28:00   75.92 .931     .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-06          12.93     3.268 No_date   28:00   73.20 .898     .000
       [XIMP=.87:TIMP=.87]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-06          12.93     3.268 No_date   28:00   73.20  n/a     .000
      Major System   /     1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-06-MN       12.93     2.262 No_date   27:52   73.67  n/a     .000
       {MjSysSto=.4323E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-06-MN       12.93     2.262 No_date   27:52   73.67  n/a     .000
                    SUM=   1.0 01:KB-06-S        12.93     2.262 No_date   27:52   73.67  n/a     .000
R0050:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-11           4.03      .921 No_date   28:00   61.82 .758     .000
       [XIMP=.68:TIMP=.68]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-11           4.03      .921 No_date   28:00   61.82  n/a     .000
      Major System   /     1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-11-MN        4.03      .577 No_date   27:52   62.10  n/a     .000
       {MjSysSto=.1581E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-11-MN        4.03      .577 No_date   27:52   62.10  n/a     .000
                    SUM=   1.0 01:KB-11-S         4.03      .577 No_date   27:52   62.10  n/a     .000
R0050:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S1              4.99     1.304 No_date   28:00   75.92 .931     .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-15           2.15      .497 No_date   28:00   69.00 .847     .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01A-S       40.82     3.600 No_date   28:00   33.14  n/a     .000
                       +   1.0 02:KB-01B-S       31.10     1.585 No_date   27:53   36.51  n/a     .000
                       +   1.0 02:KB-01C-S       13.78     1.350 No_date   27:55   37.86  n/a     .000
                       +   1.0 02:KB-03-S        84.78     5.270 No_date   27:54   37.24  n/a     .000
                       +   1.0 02:KB-04-S         6.95      .503 No_date   27:44   72.11  n/a     .000
                       +   1.0 02:KB-05           5.19     1.270 No_date   28:00   75.92  n/a     .000
                       +   1.0 02:KB-06-S        12.93     2.262 No_date   27:52   73.67  n/a     .000
                       +   1.0 02:KB-11-S         4.03      .577 No_date   27:52   62.10  n/a     .000
                       +   1.0 02:KB-15           2.15      .497 No_date   28:00   69.00  n/a     .000
                       +   1.0 02:S1              4.99     1.304 No_date   28:00   75.92  n/a     .000
                    SUM=   1.0 01:KB-P1         206.72    18.218 No_date   28:00   42.53  n/a     .000
R0050:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P1         206.72    18.218 No_date   28:00   42.53  n/a     .000
                out <=     1.0 01:KB-P1R        198.38    12.438 No_date   28:02   42.53  n/a     .000
           overflow <=     1.0 03:KB-P1ovf        8.34     5.573 No_date   28:02   42.53  n/a     .000
      {MxStoUsed=.7313E+00  m3,  TotOvfVol=.3545E+00  m3,  N-Ovf=    2,  TotDurOvf=    1.hrs}
R0050:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P1R        198.38    12.438 No_date   28:02   42.53  n/a     .000
                       +   1.0 02:KB-P1ovf        8.34     5.573 No_date   28:02   42.53  n/a     .000
                    SUM=   1.0 01:KB-Pond1      206.72    18.011 No_date   28:02   42.53  n/a     .000
R0050:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond1      206.72    18.011 No_date   28:02   42.53  n/a     .000
       fname :KB-Pond1.0050
       remark:Total Flows at KB first pond
R0050:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-07          10.86     2.656 No_date   28:00   72.58 .890     .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-07          10.86     2.656 No_date   28:00   72.58  n/a     .000
      Major System   /     1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-07-MN       10.86     2.094 No_date   28:08   72.95  n/a     .000
       {MjSysSto=.1950E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-07-MN       10.86     2.094 No_date   28:08   72.95  n/a     .000
                    SUM=   1.0 01:KB-07-S        10.86     2.094 No_date   28:08   72.95  n/a     .000
R0050:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-08           6.61     1.444 No_date   28:00   59.78 .733     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-08           6.61     1.444 No_date   28:00   59.78  n/a     .000
      Major System   /     1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-08-MN        6.61     1.058 No_date   27:53   60.05  n/a     .000
       {MjSysSto=.1439E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-08-MN        6.61     1.058 No_date   27:53   60.05  n/a     .000
                    SUM=   1.0 01:KB-08-S         6.61     1.058 No_date   27:53   60.05  n/a     .000
R0050:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-09           2.60      .665 No_date   28:00   71.90 .882     .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_1         2.37      .607 No_date   28:00   71.90 .882     .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_2         1.14      .295 No_date   28:00   71.90 .882     .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-12           4.86     1.174 No_date   28:00   68.26 .837     .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-12           4.86     1.174 No_date   28:00   68.26  n/a     .000
      Major System   /     1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-12-MN        4.86      .867 No_date   28:09   68.93  n/a     .000
       {MjSysSto=.1203E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-12-MN        4.86      .867 No_date   28:09   68.93  n/a     .000
                    SUM=   1.0 01:KB-12-S         4.86      .867 No_date   28:09   68.93  n/a     .000
R0050:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-13          10.19     2.184 No_date   28:00   59.78 .733     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-13          10.19     2.184 No_date   28:00   59.78  n/a     .000
      Major System   /     1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-13-MN       10.19     1.722 No_date   27:55   60.01  n/a     .000
       {MjSysSto=.1587E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-13-MN       10.19     1.722 No_date   27:55   60.01  n/a     .000
                    SUM=   1.0 01:KB-13-S        10.19     1.722 No_date   27:55   60.01  n/a     .000
R0050:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-14           5.47     1.201 No_date   28:00   59.78 .733     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-14           5.47     1.201 No_date   28:00   59.78  n/a     .000
      Major System   /     1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:KB-14-MN        5.47      .873 No_date   27:53   60.02  n/a     .000
       {MjSysSto=.1239E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
                       +   1.0 02:KB-14-MN        5.47      .873 No_date   27:53   60.02  n/a     .000
                    SUM=   1.0 01:KB-14-S         5.47      .873 No_date   27:53   60.02  n/a     .000
R0050:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_2         3.42      .724 No_date   28:01   64.30 .789     .000
       [XIMP=.71:TIMP=.71]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0050:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond1      206.72    18.011 No_date   28:02   42.53  n/a     .000
                       +   1.0 02:KB-07-S        10.86     2.094 No_date   28:08   72.95  n/a     .000
                       +   1.0 02:KB-08-S         6.61     1.058 No_date   27:53   60.05  n/a     .000
                       +   1.0 02:KB-09           2.60      .665 No_date   28:00   71.90  n/a     .000
                       +   1.0 02:KB-10_1         2.37      .607 No_date   28:00   71.90  n/a     .000
                       +   1.0 02:KB-10_2         1.14      .295 No_date   28:00   71.90  n/a     .000
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                     +      1.0 02:KB-12-S        4.86      .867 No_date   28:09   68.93  n/a      .000
                     +      1.0 02:KB-13-S       10.19     1.722 No_date   27:55   60.01  n/a      .000
                     +      1.0 02:KB-14-S        5.47      .873 No_date   27:53   60.02  n/a      .000
                     +      1.0 02:KB-16_2        3.42      .724 No_date   28:01   64.30  n/a      .000
                  SUM=      1.0 01:KB-P2        254.24    26.339 No_date   28:02   46.87  n/a      .000
R0050:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:KB-P2        254.24    26.339 No_date   28:02   46.87  n/a      .000
                 out <=     1.0 01:KB-P2R       253.10    17.634 No_date   28:09   46.87  n/a      .000
            overflow <=     1.0 03:KB-P2ovf       1.14     5.257 No_date   28:09   46.87  n/a      .000
      {MkStoUsed=.1109E+01  m3, TotOvfVol=.5351E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-P2R       253.10    17.634 No_date   28:09   46.87  n/a      .000
                     +      1.0 02:KB-P2ovf       1.14     5.257 No_date   28:09   46.87  n/a      .000
                  SUM=      1.0 01:KB-Pond2     254.24    22.891 No_date   28:09   46.87  n/a      .000
R0050:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:KB-Pond2     254.24    22.891 No_date   28:09   46.87  n/a      .000
      fname :KB-Pond2.0050
      remark:Total Flows at KB second pond
R0050:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:KB-16_1        2.80      .624 No_date   28:00   66.65 .818      .000
      [XIMP=.75:TIMP=.75]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-Pond2     254.24    22.891 No_date   28:09   46.87  n/a      .000
                     +      1.0 02:KB-16_1        2.80      .624 No_date   28:00   66.65  n/a      .000
                  SUM=      1.0 01:KB-P3        257.04    23.147 No_date   28:09   47.08  n/a      .000
R0050:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:KB-P3        257.04    23.147 No_date   28:09   47.08  n/a      .000
                 out <=     1.0 01:KB-P3R         9.40      .051 No_date   17:13   47.07  n/a      .000
            overflow <=     1.0 03:KB-P3ovf     247.64    22.286 No_date   28:10   47.08  n/a      .000
      {MkStoUsed=.1988E-02  m3, TotOvfVol=.1166E+02  m3, N-Ovf=    1, TotDurOvf=   23.hrs}
R0050:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-P3R         9.40      .051 No_date   17:13   47.07  n/a      .000
                     +      1.0 02:KB-P3ovf     247.64    22.286 No_date   28:10   47.08  n/a      .000
                  SUM=      1.0 01:KB-Pond3     257.04    22.337 No_date   28:10   47.08  n/a      .000
R0050:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:KB-Pond3     257.04    22.337 No_date   28:10   47.08  n/a      .000
      fname :KB-Pond3.0050
      remark:Total Flows at KB third pond
#******************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#******************************************************************************
R0050:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FC-01          8.03     1.483 No_date   28:01   49.52 .608      .000
      [XIMP=.47:TIMP=.47]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FC-01          8.03     1.483 No_date   28:01   49.52  n/a      .000
     Major System   /       1.0 02:FC-01-MJ        .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \       1.0 03:FC-01-MN       8.03      .756 No_date   28:32   49.91  n/a      .000
      {MjSysSto=.4662E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FC-01-MJ        .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:FC-01-MN       8.03      .756 No_date   27:51   49.91  n/a      .000
                  SUM=      1.0 01:FC-01-S        8.03      .756 No_date   27:51   49.91  n/a      .000
R0050:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FC-02         16.05     3.831 No_date   28:00   75.92 .931      .000
      [XIMP=.93:TIMP=.93]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FC-02         16.05     3.831 No_date   28:00   75.92  n/a      .000
     Major System   /       1.0 02:FC-02-MJ        .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \       1.0 03:FC-02-MN      16.05     1.159 No_date   27:43   75.94  n/a      .000
      {MjSysSto=.2348E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FC-02-MJ        .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:FC-02-MN      16.05     1.159 No_date   27:43   75.94  n/a      .000
                  SUM=      1.0 01:FC-02-S       16.05     1.159 No_date   27:43   75.94  n/a      .000
R0050:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FC-03          7.37     1.540 No_date   28:00   59.28 .727      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FC-03          7.37     1.540 No_date   28:00   59.28  n/a      .000
     Major System   /       1.0 02:FC-03-MJ        .02      .092 No_date   28:14   59.28  n/a      .000
     Minor System   \       1.0 03:FC-03-MN       7.35      .358 No_date   27:42   59.51  n/a      .000
      {MjSysSto=.1131E+04, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FC-03-MJ        .02      .092 No_date   28:14   59.28  n/a      .000
                     +      1.0 02:FC-03-MN       7.35      .358 No_date   27:42   59.51  n/a      .000
                  SUM=      1.0 01:FC-03-S        7.37      .450 No_date   28:14   59.51  n/a      .000
R0050:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FC-04         12.87     2.587 No_date   28:01   59.28 .727      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FC-04         12.87     2.587 No_date   28:01   59.28  n/a      .000
     Major System   /       1.0 02:FC-04-MJ        .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \       1.0 03:FC-04-MN      12.87      .741 No_date   27:44   59.54  n/a      .000
      {MjSysSto=.1729E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FC-04-MJ        .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:FC-04-MN      12.87      .741 No_date   27:44   59.54  n/a      .000
                  SUM=      1.0 01:FC-04-S       12.87      .741 No_date   27:44   59.54  n/a      .000
#******************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#******************************************************************************
R0050:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:JR-01          8.24     1.714 No_date   28:00   59.28 .727      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:JR-01          8.24     1.714 No_date   28:00   59.28  n/a      .000
     Major System   /       1.0 02:JR-01-MJ        .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \       1.0 03:JR-01-MN       8.24      .563 No_date   28:59   59.48  n/a      .000
      {MjSysSto=.9643E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:JR-01-MJ        .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:JR-01-MN       8.24      .563 No_date   27:44   59.48  n/a      .000
                  SUM=      1.0 01:JR-01-S        8.24      .563 No_date   27:44   59.48  n/a      .000
R0050:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:JR-02          1.59      .357 No_date   28:00   59.28 .727      .000
      [XIMP=.64:TIMP=.64]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0050:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:JR-02          1.59      .357 No_date   28:00   59.28  n/a      .000
     Major System   /       1.0 02:JR-02-MJ        .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \       1.0 03:JR-02-MN       1.59      .153 No_date   27:45   59.66  n/a      .000
      {MjSysSto=.1319E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:JR-02-MJ        .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:JR-02-MN       1.59      .153 No_date   27:45   59.66  n/a      .000
                  SUM=      1.0 01:JR-02-S        1.59      .153 No_date   27:45   59.66  n/a      .000
#******************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#******************************************************************************
R0050:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD       1.0 01:FRASER-DRN    13.65      .711 No_date   28:22   39.91 .490      .000
      [CN= 77.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:FRASER-D      21.61     3.688 No_date   28:01   62.97 .773      .000
      [XIMP=.58:TIMP=.58]
      [LOSS= 2 :CN= 80.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 26.32: SMAX=175.50: SK= .010]
R0050:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:FRASER-D      21.61     3.688 No_date   28:01   62.97  n/a      .000
     Major System   /       1.0 02:FRASER-J        .00      .000 No_date    0:00     .00  n/a      .000
     Minor System   \       1.0 03:FRASER-N      21.61     2.281 No_date   27:53   63.21  n/a      .000
      {MjSysSto=.7987E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:FRASER-J        .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:FRASER-N      21.61     2.281 No_date   27:53   63.21  n/a      .000
                  SUM=      1.0 01:FRASER-S      21.61     2.281 No_date   27:53   63.21  n/a      .000
R0050:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:KB-Pond3     257.04    22.337 No_date   28:10   47.08  n/a      .000
                     +      1.0 02:S-1-B         55.36     2.770 No_date   28:23   39.91  n/a      .000
                     +      1.0 02:FRASER-DRN    13.65      .711 No_date   28:22   39.91  n/a      .000
                     +      1.0 02:FRASER-S      21.61     2.281 No_date   27:53   63.21  n/a      .000
                     +      1.0 02:N_KB       54279.41   125.695 No_date   36:19   33.96  n/a      .000
                     +      1.0 02:FC-01-S        8.03      .756 No_date   27:51   49.91  n/a      .000
                     +      1.0 02:FC-02-S       16.05     1.159 No_date   27:43   75.94  n/a      .000
                     +      1.0 02:FC-03-S        7.37      .450 No_date   28:14   59.51  n/a      .000
                  SUM=      1.0 01:4241       54658.52   126.368 No_date   36:19   34.06  n/a      .000
R0050:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:4241       54658.52   126.368 No_date   36:19   34.06  n/a      .000
      fname :4241.0050
      remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0050:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:4241       54658.52   126.368 No_date   36:19   34.06  n/a      .000
 *   [RDT= 1.00] out<-      1.0 01:4241-out   54658.52   127.099 No_date   36:18   34.06  n/a      .000
      [L/S/n=  294./ .109/.035]
      {Vmax= 1.330:Dmax= 2.427}
R0050:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:4241-out   54658.52   127.099 No_date   36:18   34.06  n/a      .000
                     +      1.0 02:FC-04-S       12.87      .741 No_date   27:44   59.54  n/a      .000
                     +      1.0 02:JR-01-S        8.24      .563 No_date   27:44   59.48  n/a      .000
                     +      1.0 02:JR-02-S        1.59      .153 No_date   27:45   59.66  n/a      .000
                  SUM=      1.0 01:SN_KB      54681.21   127.139 No_date   36:18   34.07  n/a      .000
R0050:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:SN_KB      54681.21   127.139 No_date   36:18   34.07  n/a      .000
      fname :SN_KB.0050
      remark:Total Flows before Station 3633
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0050:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:SN_KB      54681.21   127.139 No_date   36:18   34.07  n/a      .000
     [RDT= 1.00] out<-      1.0 01:N_TO       54681.21   126.373 No_date   36:19   34.07  n/a      .000
      [L/S/n=  608./ .247/.035]
      {Vmax= 1.812:Dmax= 1.825}
#******************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#******************************************************************************
R0050:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:Greenbank     36.60     6.286 No_date   28:02   65.04 .798      .000
      [XIMP=.64:TIMP=.68]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:Greenbank     36.60     6.286 No_date   28:02   65.04  n/a      .000
                 out <=     1.0 01:GreenB_MN     36.60     4.176 No_date   28:09   65.04  n/a      .000
            overflow <=     1.0 03:GreenB_MJ       .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.9063E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:N_TO       54681.21   126.373 No_date   36:19   34.07  n/a      .000
                     +      1.0 02:GreenB_MJ       .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:GreenB_MN     36.60     4.176 No_date   28:09   65.04  n/a      .000
                  SUM=      1.0 01:GreenB     54717.81   126.537 No_date   36:19   34.09  n/a      .000
R0050:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:GreenB     54717.81   126.537 No_date   36:19   34.09  n/a      .000
      fname :GreenB.0050
      remark:Total Flows at Greenbank Drain
#******************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#******************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0050:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:TODD_MN2       2.10      .384 No_date   28:00   60.14 .738      .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:TODD_MN3        .12      .022 No_date   28:00   60.13 .738      .000
      [XIMP=.53:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:TODD_MJ       30.23     4.894 No_date   28:02   61.85 .759      .000
      [XIMP=.52:TIMP=.64]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:TODD_ALL     112.91    15.270 No_date   28:04   59.95 .735      .000
      [XIMP=.52:TIMP=.57]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0050:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:TODD_P         3.06      .600 No_date   28:00   63.61 .780      .000
      [XIMP=.63:TIMP=.63]
      [LOSS= 2 :CN= 77.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0050:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:TODD_MJ       30.23     4.894 No_date   28:02   61.85  n/a      .000
                 out <=     1.0 01:TODD_MJn      28.89     3.314 No_date   27:54   61.87  n/a      .000
            overflow <=     1.0 03:TODD_MJj       1.34     1.567 No_date   28:02   61.85  n/a      .000
      {MkStoUsed=.1169E-02  m3, TotOvfVol=.8285E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0050:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:TODD_MN2       2.10      .384 No_date   28:00   60.14  n/a      .000
                 out <=     1.0 01:TODD_MN2n      2.02      .268 No_date   27:53   60.14  n/a      .000
            overflow <=     1.0 03:TODD_MN2j       .08      .111 No_date   28:00   60.14  n/a      .000
      {MkStoUsed=.1643E-03  m3, TotOvfVol=.4631E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:TODD_MN3        .12      .022 No_date   28:00   60.13  n/a      .000
                 out <=     1.0 01:TODD_MN3n       .11      .016 No_date   27:52   60.13  n/a      .000
            overflow <=     1.0 03:TODD_MN3j       .00      .006 No_date   28:00   60.13  n/a      .000
      {MkStoUsed=.8712E-04  m3, TotOvfVol=.2472E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD     1.0 01:A2            25.50     3.441 No_date   28:03   55.89 .686      .000
      [XIMP=.42:TIMP=.52]
      [LOSS= 2 :CN= 75.0]
      [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD         1.0 01:A2            25.50     3.441 No_date   28:03   55.89  n/a      .000
     Major System   /       1.0 02:A2-MJ           .64     1.180 No_date   28:07   55.89  n/a      .000
     Minor System   \       1.0 03:A2-MN         24.86     1.818 No_date   28:39   56.08  n/a      .000
      {MjSysSto=.9240E+03, TotOvfVol=.3586E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0050:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:TODD_MN2n      2.02      .268 No_date   27:53   60.14  n/a      .000
                     +      1.0 02:TODD_MN3n       .11      .016 No_date   27:52   60.13  n/a      .000
                     +      1.0 02:TODD_MJj       1.34     1.567 No_date   28:02   61.85  n/a      .000
                     +      1.0 02:TODD_P         3.06      .600 No_date   28:00   63.61  n/a      .000
                     +      1.0 02:TODD_ALL     112.91    15.270 No_date   28:04   59.95  n/a      .000
                     +      1.0 02:W_CLAR_MJn     1.70      .213 No_date   27:53   59.44  n/a      .000
                  SUM=      1.0 01:TODD         121.14    17.643 No_date   28:03   60.06  n/a      .000
R0050:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:TODD         121.14    17.643 No_date   28:03   60.06  n/a      .000
      fname :TODD.0050
      remark:Total Flows at Todd Drain
#******************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#******************************************************************************
R0050:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->      1.0 02:TODD         121.14    17.643 No_date   28:03   60.06  n/a      .000
                 out <=     1.0 01:MS_P3        121.14    12.815 No_date   28:10   60.05  n/a      .000
            overflow <=     1.0 03:P3-OVF          .00      .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.2728E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                 1.0 02:GreenB     54717.81   126.537 No_date   36:19   34.09  n/a      .000
                     +      1.0 02:MS_P3        121.14    12.815 No_date   28:10   60.05  n/a      .000
                     +      1.0 02:P3-OVF          .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:TODD_MN2j       .08      .111 No_date   28:00   60.14  n/a      .000
                     +      1.0 02:A2-MJ           .64     1.180 No_date   28:07   55.89  n/a      .000
                  SUM=      1.0 01:SN_TO      54839.66   126.938 No_date   36:19   34.15  n/a      .000
R0050:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:SN_TO      54839.66   126.938 No_date   36:19   34.15  n/a      .000
      fname :SN_TO.0050
      remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0050:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->      1.0 02:SN_TO      54839.66   126.938 No_date   36:19   34.15  n/a      .000
 *   [RDT= 1.00] out<-      1.0 01:N_TO       54839.66   126.544 No_date   36:50   34.15  n/a      .000
      [L/S/n=  280./ .050/.045]
      {Vmax=  .888:Dmax= 3.469}
R0050:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                1.0 01:N_TO       54839.66   126.544 No_date   36:50   34.15  n/a      .000
      fname :N_TO.0050
      remark:Total inflows at Station 2462
#******************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
```

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#****************************************************************************
R0050:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:corr1           15.87    2.851 No_date   28:01   63.61 .780     .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0050:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:corr1           15.87    2.851 No_date   28:01   63.61  n/a     .000
      Major System   /     1.0 02:corr1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:corr1-MN        15.87    1.818 No_date   28:19   63.67  n/a     .000
       {MJSysSto=.5297E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:corr2           12.47     .330 No_date   29:10   39.91 .490     .000
       [CN= 77.0:  N= 3.00:  Tp= 1.10]
       [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
       [InterEventTime=  12.00]
R0050:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A1-Corrig       15.75    2.330 No_date   28:01   55.89 .686     .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A1-Corrig       15.75    2.330 No_date   28:01   55.89  n/a     .000
      Major System   /     1.0 02:A1-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A1-MN           15.75    1.818 No_date   27:56   56.07  n/a     .000
       {MJSysSto=.1953E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:B1               2.77     .119 No_date   28:09   24.96 .306     .000
       [CN= 56.0:  N= 3.00:  Tp=  .23]
       [IaREC= 4.00:  SMIN= 79.69:  SMAX=531.24:  SK= .010]
       [InterEventTime=  12.00]
R0050:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A4               1.27     .239 No_date   28:00   63.95 .785     .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A4               1.27     .239 No_date   28:00   63.95  n/a     .000
      Major System   /     1.0 02:A4-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A4-MN            1.27     .239 No_date   28:00   63.95  n/a     .000
       {MJSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A1-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A1-MN           15.75    1.818 No_date   27:56   56.07  n/a     .000
                     +     1.0 02:corr1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:corr1-MN        15.87    1.818 No_date   28:19   63.67  n/a     .000
                     +     1.0 02:corr2           12.47     .330 No_date   29:10   39.91  n/a     .000
                     +     1.0 02:B1               2.77     .119 No_date   28:09   24.96  n/a     .000
                     +     1.0 02:A4-MN            1.27     .239 No_date   28:00   63.95  n/a     .000
                  SUM=     1.0 01:MH101           48.13    4.028 No_date   28:02   52.81  n/a     .000
R0050:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH101           48.13    4.028 No_date   28:02   52.81  n/a     .000
       fname :MH101.0050
       remark:Total Flows at MH101
R0050:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH101           48.13    4.028 No_date   28:02   52.81  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:101-102         48.13    4.005 No_date   28:03   52.81  n/a     .000
       [L/S/n=  368./ .540/.013]
       {Vmax= 3.143:Dmax= 1.119}
       [Din= 1.05:Dused= 1.36}
R0050:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A2-MN           24.86    1.818 No_date   28:39   56.08  n/a     .000
                     +     1.0 02:101-102         48.13    4.005 No_date   28:03   52.81  n/a     .000
                  SUM=     1.0 01:MH102           72.99    5.823 No_date   28:03   53.92  n/a     .000
R0050:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH102           72.99    5.823 No_date   28:03   53.92  n/a     .000
       fname :MH102.0050
       remark:Total Flows at MH102
R0050:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A5               1.60     .312 No_date   28:01   66.69 .818     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A4-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A5               1.60     .312 No_date   28:01   66.69  n/a     .000
                  SUM=     1.0 01:A5T              1.60     .312 No_date   28:01   66.69  n/a     .000
R0050:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A5T              1.60     .312 No_date   28:01   66.69  n/a     .000
      Major System   /     1.0 02:A5-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A5-MN            1.60     .312 No_date   28:01   66.69  n/a     .000
       {MJSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH102           72.99    5.823 No_date   28:03   53.92  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:102-103         72.99    5.773 No_date   28:14   53.92  n/a     .000
       [L/S/n=  504./ .280/.013]
       {Vmax= 2.694:Dmax= 1.453}
       [Din= 1.50:Dused= 1.77}
R0050:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:102-103         72.99    5.773 No_date   28:14   53.92  n/a     .000
                     +     1.0 02:A5-MN            1.60     .312 No_date   28:01   66.69  n/a     .000
                  SUM=     1.0 01:MH103           74.59    5.961 No_date   28:03   54.19  n/a     .000
R0050:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH103           74.59    5.961 No_date   28:03   54.19  n/a     .000
       fname :MH103.0050
       remark:Total Flows at MH103
R0050:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH103           74.59    5.961 No_date   28:03   54.19  n/a     .000
      [RDT= 1.00] out<-    1.0 01:103-104         74.59    5.915 No_date   28:07   54.19  n/a     .000
       [L/S/n=  438./ .460/.013]
       {Vmax= 3.295:Dmax= 1.301}
       [Din= 1.65:Dused= 1.65}
R0050:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A6               1.56     .306 No_date   28:00   66.69 .818     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A5-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A6               1.56     .306 No_date   28:00   66.69  n/a     .000
                  SUM=     1.0 01:A6T              1.56     .306 No_date   28:00   66.69  n/a     .000
R0050:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A6T              1.56     .306 No_date   28:00   66.69  n/a     .000
      Major System   /     1.0 02:A6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A6-MN            1.56     .306 No_date   28:00   66.69  n/a     .000
       {MJSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A6-MN            1.56     .306 No_date   28:00   66.69  n/a     .000
                     +     1.0 02:103-104         74.59    5.915 No_date   28:07   54.19  n/a     .000
                     +     1.0 02:TODD_MJn        28.89    3.314 No_date   27:54   61.87  n/a     .000
                  SUM=     1.0 01:MH104          105.04    9.444 No_date   28:04   56.49  n/a     .000
R0050:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH104          105.04    9.444 No_date   28:04   56.49  n/a     .000
       fname :MH104.0050
       remark:Total Flows at MH104
R0050:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B2              12.31    1.758 No_date   28:02   56.26 .690     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B2              12.31    1.758 No_date   28:02   56.26  n/a     .000
      Major System   /     1.0 02:B2-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B2-MN           12.31    1.029 No_date   27:53   56.54  n/a     .000
       {MJSysSto=.4799E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:B2-MN           12.31    1.029 No_date   27:53   56.54  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:315-333         12.31    1.029 No_date   28:33   56.54  n/a     .000
       [L/S/n=  254./ .100/.013]
       {Vmax= 1.220:Dmax=  .838}
       [Din= 1.20:Dused= 1.20}
R0050:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B3               5.59     .825 No_date   28:01   56.26 .690     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B3               5.59     .825 No_date   28:01   56.26  n/a     .000
      Major System   /     1.0 02:B3-MJ             .02     .083 No_date   28:09   56.26  n/a     .000
      Minor System   \     1.0 03:B3-MN            5.57     .459 No_date   27:52   56.28  n/a     .000
       {MJSysSto=.2270E+03,  TotOvfVol=.1279E+02,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0050:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B3-MN            5.57     .459 No_date   27:52   56.28  n/a     .000
                     +     1.0 02:315-333         12.31    1.029 No_date   28:33   56.54  n/a     .000
                  SUM=     1.0 01:MH333           17.88    1.488 No_date   28:32   56.46  n/a     .000
R0050:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH333           17.88    1.488 No_date   28:32   56.46  n/a     .000
       fname :MH333.0050
       remark:Total Flows at MH333
R0050:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH333           17.88    1.488 No_date   28:32   56.46  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:333-335         17.88    1.479 No_date   28:19   56.46  n/a     .000
       [L/S/n=  251./ .100/.013]
       {Vmax= 1.302:Dmax= 1.057}
       [Din= 1.20:Dused= 1.29}
R0050:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:333-335         17.88    1.479 No_date   28:19   56.46  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:335-338         17.88    1.478 No_date   28:16   56.46  n/a     .000
       [L/S/n=  185./ .100/.013]
       {Vmax= 1.300:Dmax= 1.054}
       [Din= 1.20:Dused= 1.28}
R0050:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:335-338         17.88    1.478 No_date   28:16   56.46  n/a     .000
      [RDT= 1.00] out<-    1.0 01:338-340         17.88    1.454 No_date   28:18   56.46  n/a     .000
       [L/S/n=  233./ .100/.013]
       {Vmax= 1.330:Dmax=  .979}
       [Din= 1.35:Dused= 1.35}
R0050:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B4               7.60    1.094 No_date   28:02   56.26 .690     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B4               7.60    1.094 No_date   28:02   56.26  n/a     .000
      Major System   /     1.0 02:B4-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B4-MN            7.60     .655 No_date   27:53   56.27  n/a     .000
       {MJSysSto=.2780E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:338-340         17.88    1.454 No_date   28:18   56.46  n/a     .000
                     +     1.0 02:B4-MN            7.60     .655 No_date   27:53   56.27  n/a     .000
                  SUM=     1.0 01:MH340           25.48    2.109 No_date   28:18   56.41  n/a     .000
R0050:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH340           25.48    2.109 No_date   28:18   56.41  n/a     .000
       fname :MH340.0050
       remark:Total Flows at MH340
R0050:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH340           25.48    2.109 No_date   28:18   56.41  n/a     .000
      [RDT= 1.00] out<-    1.0 01:340-104         25.48    2.090 No_date   28:18   56.41  n/a     .000
       [L/S/n=  240./ .150/.013]
       {Vmax= 1.723:Dmax=  .918}
       [Din= 1.65:Dused= 1.65}
R0050:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:340-104         25.48    2.090 No_date   28:18   56.41  n/a     .000
                     +     1.0 02:MH104          105.04    9.444 No_date   28:04   56.49  n/a     .000
                  SUM=     1.0 01:MH104T         130.52   11.391 No_date   28:07   56.48  n/a     .000
R0050:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH104T         130.52   11.391 No_date   28:07   56.48  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:104-105        130.52   11.118 No_date   28:10   56.48  n/a     .000
       [L/S/n=  380./ .100/.013]
       {Vmax= 2.107:Dmax= 2.003}
       {HGTH= 2.36: WDTH= 2.70}
R0050:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B5               2.20     .390 No_date   28:00   60.29 .740     .000
       [XIMP=.57:TIMP=.57]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B5               2.20     .390 No_date   28:00   60.29  n/a     .000
      Major System   /     1.0 02:B5-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B5-MN            2.20     .260 No_date   27:53   60.60  n/a     .000
       {MJSysSto=.5913E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A8                .96     .198 No_date   28:00   66.69 .818     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:A6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:A8                .96     .198 No_date   28:00   66.69  n/a     .000
                  SUM=     1.0 01:A8T               .96     .198 No_date   28:00   66.69  n/a     .000
R0050:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:A8T               .96     .198 No_date   28:00   66.69  n/a     .000
      Major System   /     1.0 02:A8-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:A8-MN             .96     .198 No_date   28:00   66.69  n/a     .000
       {MJSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:104-105        130.52   11.118 No_date   28:10   56.48  n/a     .000
                     +     1.0 02:B5-MN            2.20     .260 No_date   27:53   60.60  n/a     .000
                     +     1.0 02:A8-MN             .96     .198 No_date   28:00   66.69  n/a     .000
                     +     1.0 02:TODD_MN3j         .00     .006 No_date   28:00   60.13  n/a     .000
                  SUM=     1.0 01:MH105          133.68   11.441 No_date   28:10   56.62  n/a     .000
R0050:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH105          133.68   11.441 No_date   28:10   56.62  n/a     .000
       fname :MH105.0050
       remark:Total Flows at MH105
R0050:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *   DIVERT HYD      ->    1.0 01:A8-MJ             .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=    1.0 02:A8-MJ-JR          .00     .000 No_date    0:00     .00  n/a     .000
            diverted <=    1.0 03:A8-MJ-B6          .00     .000 No_date    0:00     .00  n/a     .000
R0050:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     DIVERT HYD      ->    1.0 01:MH105          133.68   11.441 No_date   28:10   56.62  n/a     .000
            diverted <=    1.0 02:MH105-JR        35.42    8.432 No_date   28:10   56.62  n/a     .000
            diverted <=    1.0 03:MH105-B6        98.26    3.009 No_date   28:10   56.62  n/a     .000
R0050:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B7               7.19    1.124 No_date   28:01   56.26 .690     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B4-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:B7               7.19    1.124 No_date   28:01   56.26  n/a     .000
                  SUM=     1.0 01:B7-B4MJ          7.19    1.124 No_date   28:01   56.26  n/a     .000
R0050:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B7-B4MJ          7.19    1.124 No_date   28:01   56.26  n/a     .000
      Major System   /     1.0 02:B7R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B7R-MN           7.19     .629 No_date   27:51   56.37  n/a     .000
       {MJSysSto=.2888E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:B7R-MN           7.19     .629 No_date   27:51   56.37  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:360-106A         7.19     .629 No_date   28:28   56.37  n/a     .000
       [L/S/n=  167./ .100/.013]
       {Vmax= 1.089:Dmax=  .665}
       [Din= 1.05:Dused= 1.05}
R0050:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:B6               3.29     .535 No_date   28:00   56.26 .690     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0050:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B6               3.29     .535 No_date   28:00   56.26  n/a     .000
      Major System   /     1.0 02:B6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B6-MN            3.29     .064 No_date   27:33   56.32  n/a     .000
       {MJSysSto=.6238E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:EX-LAND         32.50    4.637 No_date   28:02   56.33 .691     .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0050:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:EX-LAND         32.50    4.637 No_date   28:02   56.33  n/a     .000
      Major System   /     1.0 02:EX-LAND-MJ        .76    1.533 No_date   28:06   56.33  n/a     .000
      Minor System   \     1.0 03:EX-LAND-MN      31.74    2.275 No_date   27:49   56.55  n/a     .000
       {MJSysSto=.1365E+04,  TotOvfVol=.4274E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0050:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:B7R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:EX-LAND-MJ        .76    1.533 No_date   28:06   56.33  n/a     .000
                     +     1.0 02:B5-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:B6-MJ             .00     .000 No_date    0:00     .00  n/a     .000
                     +     1.0 02:B6-MN            3.29     .064 No_date   27:33   56.32  n/a     .000
                     +     1.0 02:A8-MJ-B6          .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:B6-B7ExMJ        4.05    1.597 No_date   28:06   56.32  n/a     .000
R0050:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:B6-B7ExMJ        4.05    1.597 No_date   28:06   56.32  n/a     .000
      Major System   /     1.0 02:B6R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
      Minor System   \     1.0 03:B6R-MN           4.05     .064 No_date   27:33   56.36  n/a     .000
       {MJSysSto=.4274E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0050:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH105-B6        98.26    3.009 No_date   28:10   56.62  n/a     .000
      [RDT= 1.00] out<-    1.0 01:105-106A        98.26    3.009 No_date   28:07   56.62  n/a     .000
       [L/S/n=  208./ .100/.013]
       {Vmax= 1.597:Dmax= 1.249}
       [Din= 1.80:Dused= 1.80}
R0050:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:360-106A         7.19     .629 No_date   28:28   56.37  n/a     .000
                     +     1.0 02:105-106A        98.26    3.009 No_date   28:07   56.62  n/a     .000
                     +     1.0 02:B6R-MN           4.05     .064 No_date   27:33   56.36  n/a     .000
                     +     1.0 02:B6R-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                  SUM=     1.0 01:MH106A         109.50    3.701 No_date   28:10   56.59  n/a     .000
R0050:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:MH106A         109.50    3.701 No_date   28:10   56.59  n/a     .000
       fname :MH106A.0050
       remark:Total Flows at MH106A
R0050:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:MH106A         109.50    3.701 No_date   28:10   56.59  n/a     .000
 *    [RDT= 1.00] out<-    1.0 01:106A-106       109.50    3.702 No_date   27:59   56.59  n/a     .000
       [L/S/n=  190./ .100/.013]
       {Vmax= 1.635:Dmax= 1.487}
       [Din= 1.80:Dused= 1.81}
R0050:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A9               2.44     .481 No_date   28:00   66.69 .818     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
```

```
           [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:A9              2.44      .481 No_date   28:00   66.69  n/a     .000
      Major System   /        1.0 02:A9-MJ            .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \        1.0 03:A9-MN           2.44      .481 No_date   28:00   66.69  n/a     .000
R0050:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:106A-106      109.50     3.702 No_date   27:59   56.59  n/a     .000
                     +        1.0 02:A9-MN           2.44      .481 No_date   28:00   66.69  n/a     .000
                  SUM=        1.0 01:MH106         111.94     4.177 No_date   28:00   56.81  n/a     .000
R0050:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:MH106         111.94     4.177 No_date   28:00   56.81  n/a     .000
       fname :MH106.0050
       remark:Total Flows at MH106
R0050:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE        ->     1.0 02:MH106         111.94     4.177 No_date   28:00   56.81  n/a     .000
 *    [RDT= 1.00] out<-       1.0 01:106-107       111.94     4.129 No_date   28:00   56.81  n/a     .000
       [L/S/n=  123./ .100/.013]
       {Vmax= 1.685:Dmax= 1.556}
       [Din= 1.80:Dused= 1.90}
R0050:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A10                 4.14      .602 No_date   28:01   53.20 .653     .000
       [XIMP=.35:TIMP=.47]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:A10             4.14      .602 No_date   28:01   53.20  n/a     .000
      Major System   /        1.0 02:A10-MJ           .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \        1.0 03:A10-MN          4.14      .310 No_date   27:50   53.25  n/a     .000
       {MjSysSto=.1897E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A11                10.61     1.720 No_date   28:02   60.69 .745     .000
       [XIMP=.53:TIMP=.62]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00404------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:A11            10.61     1.720 No_date   28:02   60.69  n/a     .000
      Major System   /        1.0 02:A11-MJ           .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \        1.0 03:A11-MN         10.61      .993 No_date   27:52   60.86  n/a     .000
       {MjSysSto=.4540E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00405------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:106-107       111.94     4.129 No_date   28:00   56.81  n/a     .000
                     +        1.0 02:A10-MN          4.14      .310 No_date   27:50   53.25  n/a     .000
                     +        1.0 02:A11-MN         10.61      .993 No_date   27:52   60.86  n/a     .000
                  SUM=        1.0 01:MH107         126.69     5.432 No_date   28:00   57.03  n/a     .000
R0050:C00406------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:MH107         126.69     5.432 No_date   28:00   57.03  n/a     .000
       fname :MH107.0050
       remark:Total Flows at MH107
R0050:C00407------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE        ->     1.0 02:MH107         126.69     5.432 No_date   28:00   57.03  n/a     .000
 *    [RDT= 1.00] out<-       1.0 01:107-119       126.69     5.345 No_date   28:00   57.03  n/a     .000
       [L/S/n=  114./ .120/.013]
       {Vmax= 1.927:Dmax= 1.660}
       [Din= 1.80:Dused= 2.02}
R0050:C00408------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE        ->     1.0 02:107-119       126.69     5.345 No_date   28:00   57.03  n/a     .000
 *    [RDT= 1.00] out<-       1.0 01:119-108       126.69     5.334 No_date   28:01   57.03  n/a     .000
       [L/S/n=   66./ .120/.013]
       {Vmax= 1.919:Dmax= 1.650}
       [Din= 1.80:Dused= 2.01}
R0050:C00409------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A12                12.29     1.938 No_date   28:01   56.26 .690     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00410------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:A12            12.29     1.938 No_date   28:01   56.26  n/a     .000
      Major System   /        1.0 02:A12-MJ           .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \        1.0 03:A12-MN         12.29     1.029 No_date   27:50   56.44  n/a     .000
       {MjSysSto=.5545E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00411------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A13                 2.59      .487 No_date   28:01   66.69 .818     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00412------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD          1.0 01:A13             2.59      .487 No_date   28:01   66.69  n/a     .000
      Major System   /        1.0 02:A13-MJ           .00      .000 No_date    0:00     .00  n/a     .000
      Minor System   \        1.0 03:A13-MN          2.59      .487 No_date   28:01   66.69  n/a     .000
R0050:C00413------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:Pond-Block          2.94      .430 No_date   28:00   53.21 .653     .000
       [XIMP=.41:TIMP=.41]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0050:C00414------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:119-108       126.69     5.334 No_date   28:01   57.03  n/a     .000
                     +        1.0 02:A13-MN          2.59      .487 No_date   28:01   66.69  n/a     .000
                     +        1.0 02:A12-MN         12.29     1.029 No_date   27:50   56.44  n/a     .000
                  SUM=        1.0 01:MH108         141.57     6.850 No_date   28:01   57.16  n/a     .000
R0050:C00415------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:MH108         141.57     6.850 No_date   28:01   57.16  n/a     .000
       fname :MH108.0050
       remark:Total Flows at MH108
R0050:C00416------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE        ->     1.0 02:MH108         141.57     6.850 No_date   28:01   57.16  n/a     .000
 *    [RDT= 1.00] out<-       1.0 01:108-116       141.57     6.810 No_date   28:02   57.16  n/a     .000
       [L/S/n=   77./ .130/.013]
       {Vmax= 2.104:Dmax= 1.784}
       [Din= 1.80:Dused= 2.17}
R0050:C00417------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE        ->     1.0 02:108-116       141.57     6.810 No_date   28:02   57.16  n/a     .000
 *    [RDT= 1.00] out<-       1.0 01:116-corrig    141.57     6.771 No_date   28:02   57.16  n/a     .000
       [L/S/n=   80./ .130/.013]
       {Vmax= 2.101:Dmax= 1.780}
       [Din= 1.80:Dused= 2.17}
R0050:C00418------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:116-corrig    141.57     6.771 No_date   28:02   57.16  n/a     .000
                     +        1.0 02:Pond-Block      2.94      .430 No_date   28:00   53.21  n/a     .000
                  SUM=        1.0 01:Corrigan      144.51     7.185 No_date   28:02   57.08  n/a     .000
R0050:C00419------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:Corrigan      144.51     7.185 No_date   28:02   57.08  n/a     .000
       fname :Corrigan.0050
       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0050:C00420------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:Corrigan      144.51     7.185 No_date   28:02   57.08  n/a     .000
                 out <=       1.0 01:Co-P          144.51     6.335 No_date   28:26   57.08  n/a     .000
            overflow <=       1.0 03:Co-P-OVF         .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.1027E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00421------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:Co-P-OVF         .00      .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:Co-P          144.51     6.335 No_date   28:26   57.08  n/a     .000
                     +        1.0 02:N_TO        54839.66   126.544 No_date   36:50   34.15  n/a     .000
                     +        1.0 02:MH105-JR       35.42     8.432 No_date   28:10   56.62  n/a     .000
                     +        1.0 02:A8-MJ-JR         .00      .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:A9-MJ            .00      .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:A10-MJ           .00      .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:A11-MJ           .00      .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:A12-MJ           .00      .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:A13-MJ           .00      .000 No_date    0:00     .00  n/a     .000
                  SUM=        1.0 01:corrig      55019.59   127.077 No_date   36:49   34.22  n/a     .000
R0050:C00422------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:corrig      55019.59   127.077 No_date   36:49   34.22  n/a     .000
       fname :corrig.0050
       remark:Total Flows at Corrigan Pond
#*****************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#*****************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0050:C00423------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->      1.0 02:corrig      55019.59   127.077 No_date   36:49   34.22  n/a     .000
      [RDT= 1.00] out<-       1.0 01:N_MI        55019.59   127.062 No_date   36:52   34.22  n/a     .000
       [L/S/n=  580./ .445/.045]
       {Vmax= 2.066:Dmax= 1.982}
#*****************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#*****************************************************************************
R0050:C00424------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:MILLS             175.99    17.756 No_date   28:06   50.66 .622     .000
       [XIMP=.38:TIMP=.38]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#*****************************************************************************
R0050:C00425------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:MILLS         175.99    17.756 No_date   28:06   50.66  n/a     .000
                 out <=       1.0 01:MILL_P        153.87     4.050 No_date   28:11   50.66  n/a     .000
            overflow <=       1.0 03:MIL-OV         22.12    12.440 No_date   28:11   50.66  n/a     .000
      {MxStoUsed=.2310E+01  m3, TotOvfVol=.1121E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0050:C00426------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:N_MI        55019.59   127.062 No_date   36:52   34.22  n/a     .000
                     +        1.0 02:MIL-OV         22.12    12.440 No_date   28:11   50.66  n/a     .000
                     +        1.0 02:MILL_P        153.87     4.050 No_date   28:11   50.66  n/a     .000
                  SUM=        1.0 01:SN_MI       55195.58   127.649 No_date   36:50   34.28  n/a     .000
R0050:C00427------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:SN_MI       55195.58   127.649 No_date   36:50   34.28  n/a     .000
       fname :SN_MI.0050
       remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0050:C00428------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->      1.0 02:SN_MI       55195.58   127.649 No_date   36:50   34.28  n/a     .000
      [RDT= 1.00] out<-       1.0 01:N_DE        55195.58   127.340 No_date   37:05   34.28  n/a     .000
       [L/S/n= 1962./ .223/.045]
       {Vmax= 1.577:Dmax= 2.491}
#*****************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#*****************************************************************************
R0050:C00429------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:DESIRE             23.78     2.563 No_date   28:03   46.85 .575     .000
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
#*****************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#*****************************************************************************
R0050:C00430------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:JOCKVA            225.13    25.253 No_date   28:07   56.33 .691     .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0050:C00431------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:EX-LAND-MN     31.74     2.275 No_date   27:49   56.55  n/a     .000
                     +        1.0 02:JOCKVA        225.13    25.253 No_date   28:07   56.33  n/a     .000
                     +        1.0 02:B2-MI            .00      .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:B3-MI            .02      .083 No_date   28:09   56.26  n/a     .000
                  SUM=        1.0 01:JOCKVA-TO     256.89    27.528 No_date   28:07   56.36  n/a     .000
R0050:C00432------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:JOCKVA-TO     256.89    27.528 No_date   28:07   56.36  n/a     .000
       fname :JOCKVA-TO.0050
       remark:Total Flows at KB first pond
#*****************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#*****************************************************************************
R0050:C00433------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->       1.0 02:JOCKVA-TO     256.89    27.528 No_date   28:07   56.36  n/a     .000
                 out <=       1.0 01:JOCK_P        256.89    10.991 No_date   28:38   56.36  n/a     .000
            overflow <=       1.0 03:JO-OVF           .00      .000 No_date    0:00     .00  n/a     .000
      {MxStoUsed=.5928E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0050:C00434------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:N_DE        55195.58   127.340 No_date   37:05   34.28  n/a     .000
                     +        1.0 02:DESIRE         23.78     2.563 No_date   28:03   46.85  n/a     .000
                     +        1.0 02:JO-OVF           .00      .000 No_date    0:00     .00  n/a     .000
                     +        1.0 02:JOCK_P        256.89    10.991 No_date   28:38   56.36  n/a     .000
                  SUM=        1.0 01:SN_DE       55476.26   128.229 No_date   37:04   34.38  n/a     .000
R0050:C00435------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:SN_DE       55476.26   128.229 No_date   37:04   34.38  n/a     .000
       fname :SN_DE.0050
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0050:C00436------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->      1.0 02:SN_DE       55476.26   128.229 No_date   37:04   34.38  n/a     .000
      [RDT= 1.00] out<-       1.0 01:N1          55476.26   128.215 No_date   37:08   34.38  n/a     .000
       [L/S/n=  563./ .967/.045]
       {Vmax= 2.123:Dmax= 1.249}
#*****************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#*****************************************************************************
R0050:C00437------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD        1.0 01:S-2           102.94     4.795 No_date   28:20   35.39 .434     .000
       [CN= 72.0: N= 3.00: Tp=  .40]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0050:C00438------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                  1.0 02:N1          55476.26   128.215 No_date   37:08   34.38  n/a     .000
                     +        1.0 02:S-2           102.94     4.795 No_date   28:20   35.39  n/a     .000
                  SUM=        1.0 01:SN_N1       55579.20   128.451 No_date   37:07   34.38  n/a     .000
R0050:C00439------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                 1.0 01:SN_N1       55579.20   128.451 No_date   37:07   34.38  n/a     .000
       fname :SN_N1.0050
       remark:Total Flows at Rideau River
##############################################################################
  ** END OF RUN :    99

*************************************************************************************





 RUN#:COMMAND#
R0100:C00001-------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2   (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0100 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]     Project Number: [1474-16]
#  Date          : 04-03-2021
#  Modeller      : [M M]
#  Company       : JFSAinc.
#  License #     :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMISTO in COMPUTE DUALHYD (TMISTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"],NHYDin=["SN_TO"]) from 0.033 %(as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"],NHYDin=["SN_CE"]) from 0.01 %(as per St
# ----------------------------------------------------------------------------
R0100:C00002-------------------------------------------------------------------------------
      READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
R0100:C00003-------------------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
R0100:C00004-------------------------------------------------------------------------------
      DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   4.67 mm] [N= 3.00]
       Average monthly Pan Evaporation data in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0100:C00005-------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
       {APImax=119.84: APIavg= 69.19: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0100:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD        1.0 01:JR_HW        3680.00    21.616 No_date   36:52   35.18 .397     .000
       [CN= 64.0: N= 3.00: Tp= 7.13]
       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0100:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD        1.0 01:SW_13         971.00     8.203 No_date   32:33   32.84 .371     .000
       [CN= 61.0: N= 3.00: Tp= 3.76]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
```

```
R0100:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:JR_GWM       3074.00   10.428 No_date   39:59   28.29 .319      .000
        [CN= 55.0: N= 3.00: Tp=11.33]
        [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
        [InterEventTime=  12.00]
R0100:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:JR_ASH       1781.00   19.695 No_date   32:38   42.49 .480      .000
        [CN= 72.0: N= 3.00: Tp= 3.91]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0100:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_11         500.00   10.735 No_date   29:21   36.76 .415      .000
        [CN= 66.0: N= 3.00: Tp= 1.24]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:NN_CK        1917.00   14.496 No_date   34:24   36.76 .415      .000
        [CN= 66.0: N= 3.00: Tp= 5.29]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0100:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_10        5666.00   37.663 No_date   37:48   42.49 .480      .000
        [CN= 72.0: N= 3.00: Tp= 8.00]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0100:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:KG_CK        8376.00   36.118 No_date   39:59   36.76 .415      .000
        [CN= 66.0: N= 3.00: Tp=11.66]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0100:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_9         1132.00   16.501 No_date   30:52   40.82 .461      .000
        [CN= 70.0: N= 3.00: Tp= 2.51]
        [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0100:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:NC_CK        4464.00   18.060 No_date   39:59   33.61 .380      .000
        [CN= 62.0: N= 3.00: Tp=11.32]
        [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0100:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_8          131.00    3.259 No_date   28:57   34.39 .388      .000
        [CN= 63.0: N= 3.00: Tp=  .90]
        [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0100:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:HB_DR        3854.00   21.238 No_date   38:28   36.76 .415      .000
        [CN= 66.0: N= 3.00: Tp= 8.42]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0100:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_7         3197.00   16.421 No_date   36:21   29.79 .336      .000
        [CN= 57.0: N= 3.00: Tp= 6.65]
        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0100:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_6          165.00    1.511 No_date   33:01   37.57 .424      .000
        [CN= 67.0: N= 3.00: Tp= 4.18]
        [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0100:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:VG_DR        1332.00   10.882 No_date   35:10   42.49 .480      .000
        [CN= 72.0: N= 3.00: Tp= 5.95]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0100:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_5          224.00    9.576 No_date   28:44   47.62 .538      .000
        [CN= 77.0: N= 3.00: Tp=  .75]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0100:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:FL_CK        4945.00   52.056 No_date   33:16   44.17 .499      .000
        [CN= 74.0: N= 3.00: Tp= 4.45]
        [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
        [InterEventTime=  12.00]
R0100:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_5A2         20.00    1.097 No_date   28:35   52.06 .588      .000
        [CN= 81.0: N= 3.00: Tp=  .62]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0100:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_5A1       1412.00   10.184 No_date   37:44   45.88 .518      .000
        [CN= 75.0: N= 3.00: Tp= 8.00]
        [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
        [InterEventTime=  12.00]
R0100:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_4          585.00   14.953 No_date   29:55   52.06 .588      .000
        [CN= 81.0: N= 3.00: Tp= 1.75]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0100:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:LM_CK        1021.00   19.782 No_date   30:45   51.16 .578      .000
        [CN= 80.0: N= 3.00: Tp= 2.46]
        [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
        [InterEventTime=  12.00]
R0100:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SW_2          177.00    7.567 No_date   28:44   47.62 .538      .000
        [CN= 77.0: N= 3.00: Tp=  .75]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0100:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:SM_DR        1122.00   17.981 No_date   31:42   52.06 .588      .000
        [CN= 81.0: N= 3.00: Tp= 3.25]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0100:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:MD_DR        2737.00   40.730 No_date   31:28   46.75 .528      .000
        [CN= 76.0: N= 3.00: Tp= 3.03]
        [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
        [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0100:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:JR_HW        3680.00   21.616 No_date   36:52   35.18  n/a      .000
                      +     1.0 02:SW_13         971.00    8.203 No_date   32:33   32.84  n/a      .000
                   SUM=     1.0 01:S_N13        4651.00   27.660 No_date   35:21   34.69  n/a      .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0100:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N13        4651.00   27.660 No_date   35:21   34.69  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N13A         4651.00   22.598 No_date   38:56   34.69  n/a      .000
        [L/S/n= 9074./ .022/.040]
        {Vmax=  .598:Dmax= 4.178}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0100:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N13A         4651.00   22.598 No_date   38:56   34.69  n/a      .000
                      +     1.0 02:JR_GWM       3074.00   10.428 No_date   39:59   28.29  n/a      .000
                   SUM=     1.0 01:SN13A        7725.00   32.845 No_date   39:44   32.14  n/a      .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0100:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:SN13A        7725.00   32.845 No_date   39:44   32.14  n/a      .000
                 out <=     1.0 01:RES_GM       7725.00    3.950 No_date   62:26   32.14  n/a      .000
      {MxStoUsed=.1796E+03  m3}
#
R0100:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:RES_GM       7725.00    3.950 No_date   62:26   32.14  n/a      .000
        fname :H_RESGM
        remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0100:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:RES_GM       7725.00    3.950 No_date   62:26   32.14  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N12          7725.00    3.947 No_date   64:43   32.14  n/a      .000
        [L/S/n= 5926./ .076/.040]
        {Vmax=  .560:Dmax= 1.560}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0100:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N12          7725.00    3.947 No_date   64:43   32.14  n/a      .000
                      +     1.0 02:JR_ASH       1781.00   19.695 No_date   32:38   42.49  n/a      .000
                   SUM=     1.0 01:S_N12        9506.00   21.745 No_date   32:41   34.08  n/a      .000
R0100:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N12        9506.00   21.745 No_date   32:41   34.08  n/a      .000
        fname :H_SN12
        remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0100:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N12        9506.00   21.745 No_date   32:41   34.08  n/a      .000
      [RDT= 1.00] out<-     1.0 01:Dum11        9506.00   21.522 No_date   32:57   34.08  n/a      .000
        [L/S/n=  972./ .054/.040]
        {Vmax=  .777:Dmax= 3.194}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0100:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:Dum11        9506.00   21.522 No_date   32:57   34.08  n/a      .000
                      +     1.0 02:SW_11         500.00   10.735 No_date   29:21   36.76  n/a      .000
                      +     1.0 02:NN_CK        1917.00   14.496 No_date   34:24   36.76  n/a      .000
                   SUM=     1.0 01:S_N11       11923.00   38.138 No_date   32:59   34.62  n/a      .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0100:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N11       11923.00   38.138 No_date   32:59   34.62  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N10         11923.00   23.609 No_date   39:19   34.62  n/a      .000
        [L/S/n=14028./ .157/.040]
        {Vmax=  .486:Dmax= 1.492}
#
# Addition of Subwatershed 10 to Node 10
#
R0100:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N10         11923.00   23.609 No_date   39:19   34.62  n/a      .000
                      +     1.0 02:SW_10        5666.00   37.663 No_date   37:48   42.49  n/a      .000
                   SUM=     1.0 01:S_N10       17589.00   61.058 No_date   38:16   37.16  n/a      .000
R0100:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N10       17589.00   61.058 No_date   38:16   37.16  n/a      .000
        fname :H_SN10
        remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0100:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:S_N10       17589.00   61.058 No_date   38:16   37.16  n/a      .000
                      +     1.0 02:KG_CK        8376.00   36.118 No_date   39:59   36.76  n/a      .000
                   SUM=     1.0 01:S_N10A      25965.00   96.054 No_date   39:40   37.03  n/a      .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0100:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N10A      25965.00   96.054 No_date   39:40   37.03  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N9          25965.00   94.262 No_date   39:59   37.03  n/a      .000
        [L/S/n= 3982./ .075/.040]
        {Vmax=  .775:Dmax= 2.151}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0100:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N9          25965.00   94.262 No_date   39:59   37.03  n/a      .000
                      +     1.0 02:SW_9         1132.00   16.501 No_date   30:52   40.83  n/a      .000
                      +     1.0 02:NC_CK        4464.00   18.060 No_date   39:59   33.61  n/a      .000
                   SUM=     1.0 01:S_N9        31561.00  115.681 No_date   39:59   36.68  n/a      .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0100:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N9        31561.00  115.681 No_date   39:59   36.68  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N8          31561.00  109.395 No_date   39:59   36.68  n/a      .000
        [L/S/n= 2269./ .088/.045]
        {Vmax=  .374:Dmax= 1.924}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0100:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N8          31561.00  109.395 No_date   39:59   36.68  n/a      .000
                      +     1.0 02:SW_8          131.00    3.259 No_date   28:57   34.39  n/a      .000
                      +     1.0 02:HB_DR        3854.00   21.238 No_date   38:28   36.76  n/a      .000
                   SUM=     1.0 01:S_N8        35546.00  130.593 No_date   39:59   36.68  n/a      .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0100:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N8        35546.00  130.593 No_date   39:59   36.68  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N7          35546.00  111.942 No_date   44:52   36.68  n/a      .000
        [L/S/n= 3750./ .053/.070]
        {Vmax=  .237:Dmax= 2.412}
#
# Addition of Subwatershed 7 to Node 7
#
R0100:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N7          35546.00  111.942 No_date   44:52   36.68  n/a      .000
                      +     1.0 02:SW_7         3197.00   16.421 No_date   36:21   29.79  n/a      .000
                   SUM=     1.0 01:S_N7        38743.00  120.740 No_date   43:36   36.11  n/a      .000
R0100:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:S_N7        38743.00  120.740 No_date   43:36   36.11  n/a      .000
        fname :H_SN7
        remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0100:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:S_N7        38743.00  120.740 No_date   43:36   36.11  n/a      .000
                 out <=     1.0 01:RES_RF      38743.00   62.351 No_date   58:25   36.11  n/a      .000
      {MxStoUsed=.5140E+03  m3}
R0100:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:RES_RF      38743.00   62.351 No_date   58:25   36.11  n/a      .000
        fname :H_ResRF
        remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0100:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:RES_RF      38743.00   62.351 No_date   58:25   36.11  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N6          38743.00   62.067 No_date   59:46   36.11  n/a      .000
        [L/S/n= 3056./ .082/.025]
        {Vmax=  .556:Dmax= 1.373}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0100:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N6          38743.00   62.067 No_date   59:46   36.11  n/a      .000
                      +     1.0 02:SW_6          165.00    1.511 No_date   33:01   37.57  n/a      .000
                      +     1.0 02:VG_DR        1332.00   10.882 No_date   35:10   42.49  n/a      .000
                   SUM=     1.0 01:S_N6        40240.01   62.114 No_date   59:39   36.33  n/a      .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0100:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N6        40240.01   62.114 No_date   59:39   36.33  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N5          40240.01   61.991 No_date   60:21   36.33  n/a      .000
        [L/S/n= 1852./ .054/.035]
        {Vmax=  .494:Dmax= 1.468}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0100:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N5          40240.01   61.991 No_date   60:21   36.33  n/a      .000
                      +     1.0 02:SW_5          224.00    9.576 No_date   28:44   47.62  n/a      .000
                      +     1.0 02:FL_CK        4945.00   52.056 No_date   33:16   44.17  n/a      .000
                   SUM=     1.0 01:S_N5        45409.01   80.898 No_date   34:11   37.24  n/a      .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0100:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:S_N5        45409.01   80.898 No_date   34:11   37.24  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N5A         45409.01   80.666 No_date   34:28   37.24  n/a      .000
        [L/S/n=  556./ .090/.040]
        {Vmax=  .546:Dmax= 1.353}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0100:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N5A         45409.01   80.666 No_date   34:28   37.24  n/a      .000
                      +     1.0 02:SW_5A2         20.00    1.097 No_date   28:35   52.06  n/a      .000
                      +     1.0 02:SW_5A1       1412.00   10.184 No_date   37:44   45.88  n/a      .000
                   SUM=     1.0 01:S_N5A       46841.01   89.756 No_date   34:38   37.51  n/a      .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0100:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
```

```
     ROUTE CHANNEL   ->    1.0 02:S_N5A       46841.01   89.756 No_date   34:38   37.51  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N4          46841.01   85.943 No_date   36:10   37.51  n/a      .000
       [L/S/n= 4630./ .043/.035]
       {Vmax=  .904:Dmax= 3.866}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0100:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N4          46841.01   85.943 No_date   36:10   37.51  n/a      .000
                    +      1.0 02:SW_4          585.00   14.953 No_date   29:55   52.06  n/a      .000
                    +      1.0 02:LM_CK        1021.00   19.782 No_date   30:45   51.16  n/a      .000
                 SUM=      1.0 01:S_N4        48447.00   96.618 No_date   35:12   37.97  n/a      .000
R0100:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N4        48447.00   96.618 No_date   35:12   37.97  n/a      .000
       fname :S_N4.0100
       remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0100:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N4        48447.00   96.618 No_date   35:12   37.97  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N2          48447.00   96.322 No_date   35:13   37.97  n/a      .000
       [L/S/n= 1667./ .060/.040]
       {Vmax=  .944:Dmax= 3.929}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0100:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N2          48447.00   96.322 No_date   35:13   37.97  n/a      .000
                    +      1.0 02:SW_2          177.00    7.567 No_date   28:44   47.62  n/a      .000
                    +      1.0 02:SM_DR        1122.00   17.981 No_date   31:42   52.06  n/a      .000
                    +      1.0 02:MO_DR        2737.00   40.730 No_date   31:28   46.75  n/a      .000
                 SUM=      1.0 01:S_N2        52483.00  143.580 No_date   32:59   38.76  n/a      .000
R0100:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N2        52483.00  143.580 No_date   32:59   38.76  n/a      .000
       fname :H_SN2
       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
#*****************************************************************************
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
R0100:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N2        52483.00  143.580 No_date   32:59   38.76  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N_416       52483.00  139.298 No_date   33:45   38.76  n/a      .000
       [L/S/n= 2327./ .050/.055]
       {Vmax=  .801:Dmax= 3.814}
#*****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#*****************************************************************************
R0100:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_1a         536.42    7.274 No_date   31:14   40.95 .462      .000
       [CN= 72.0:  N= 3.00:  Tp= 2.79]
       [IaREC= 4.00:  SMIN= 39.75:  SMAX=264.99:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe     44.93    7.977 No_date   28:02   70.58 .797      .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:S-1-Okeefe     44.93    7.977 No_date   28:02   70.58  n/a      .000
      Major System   /     1.0 02:S-1-OkMJ         .00     .000 No_date    0:00     .00  n/a      .000
      Minor System   \     1.0 03:S-1-OkMN       44.93    4.591 No_date   27:52   70.65  n/a      .000
       {MJSysSto=.2254E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:S-1-OkMJ         .00     .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:S-1-OkMN       44.93    4.591 No_date   27:52   70.65  n/a      .000
                 SUM=      1.0 01:S-1-OkS        44.93    4.591 No_date   27:52   70.65  n/a      .000
R0100:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:S-1-OkS        44.93    4.591 No_date   27:52   70.65  n/a      .000
                 out <=    1.0 01:S-1-OkSR       43.17     .537 No_date   28:35   70.65  n/a      .000
            overflow <=    1.0 03:S-1-OkSovf      1.76    1.172 No_date   28:35   70.65  n/a      .000
      {MkStoUsed=.1792E+01  m3,  TotOvfVol=.1240E+00  m3,  N-Ovf=    2,  TotDurOvf=    1.hrs}
R0100:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_416       52483.00  139.298 No_date   33:45   38.76  n/a      .000
                    +      1.0 02:SW_1a         536.42    7.274 No_date   31:14   40.95  n/a      .000
                    +      1.0 02:S-1-OkSR       43.17     .537 No_date   28:35   70.65  n/a      .000
                    +      1.0 02:S-1-OkSovf      1.76    1.172 No_date   28:35   70.65  n/a      .000
                 SUM=      1.0 01:SN_416      53064.36  145.245 No_date   33:31   38.81  n/a      .000
R0100:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_416      53064.36  145.245 No_date   33:31   38.81  n/a      .000
       fname :SN_416.0100
       remark:Total Flows at Highway 416 before Station 7245
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
R0100:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_416      53064.36  145.245 No_date   33:31   38.81  n/a      .000
      [RDT= 1.00] out<-    1.0 01:N_OK        53064.36  145.101 No_date   33:45   38.81  n/a      .000
       [L/S/n=  497./ .302/.055]
       {Vmax= 1.729:Dmax= 3.269}
#*****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
#*****************************************************************************
R0100:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-1            63.72    1.380 No_date   28:58   30.74 .347      .000
       [CN= 61.0:  N= 3.00:  Tp=  .90]
       [IaREC= 4.00:  SMIN= 64.50:  SMAX=430.01:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:O-1            63.72    1.380 No_date   28:58   30.74  n/a      .000
      [RDT= 1.00] out<-    1.0 01:O-1R           63.72    1.307 No_date   29:13   30.74  n/a      .000
       [L/S/n=  960./ .630/.043]
       {Vmax=  .926:Dmax=  .493}
R0100:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-2            28.61     .485 No_date   29:13   28.38 .320      .000
       [CN= 57.0:  N= 3.00:  Tp= 1.10]
       [IaREC= 4.00:  SMIN= 76.32:  SMAX=508.81:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-4            46.94     .650 No_date   28:59   21.79 .246      .000
       [CN= 49.0:  N= 3.00:  Tp=  .90]
       [IaREC= 4.00:  SMIN=104.59:  SMAX=697.25:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:O-1R           63.72    1.307 No_date   29:13   30.74  n/a      .000
                    +      1.0 02:O-2            28.61     .485 No_date   29:13   28.38  n/a      .000
                    +      1.0 02:O-4            46.94     .650 No_date   28:59   21.79  n/a      .000
                 SUM=      1.0 01:OKF-N         139.27    2.427 No_date   29:10   27.24  n/a      .000
R0100:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:OKF-N         139.27    2.427 No_date   29:10   27.24  n/a      .000
      [RDT= 1.00] out<-    1.0 01:OKF-NR        139.27    2.423 No_date   29:12   27.24  n/a      .000
       [L/S/n=  210./ .810/.043]
       {Vmax= 1.130:Dmax=  .796}
R0100:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-6            16.46     .220 No_date   28:45   18.67 .211      .000
       [CN= 43.0:  N= 3.00:  Tp=  .70]
       [IaREC= 4.00:  SMIN=134.47:  SMAX=896.47:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:O-3            39.67    1.454 No_date   28:21   32.90 .371      .000
       [XIMP=.15:TIMP=.30]
       [LOSS= 2 :CN= 50.0]
       [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
       [SMIN= 99.77:  SMAX=665.12:  SK= .010]
R0100:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:O-5            60.63    3.669 No_date   28:10   38.00 .429      .000
       [XIMP=.13:TIMP=.26]
       [LOSS= 2 :CN= 61.0]
       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
       [SMIN= 64.50:  SMAX=430.01:  SK= .010]
R0100:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:OKF-NR        139.27    2.423 No_date   29:12   27.24  n/a      .000
                    +      1.0 02:O-3            39.67    1.454 No_date   28:21   32.90  n/a      .000
                    +      1.0 02:O-5            60.63    3.669 No_date   28:10   38.00  n/a      .000
                    +      1.0 02:O-6            16.46     .220 No_date   28:45   18.67  n/a      .000
                 SUM=      1.0 01:PT1           256.03    5.938 No_date   28:19   30.11  n/a      .000
R0100:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-7             5.28     .117 No_date   28:37   25.16 .284      .000
       [CN= 54.0:  N= 3.00:  Tp=  .60]
       [IaREC= 4.00:  SMIN= 87.01:  SMAX=580.07:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:PT1           256.03    5.938 No_date   28:19   30.11  n/a      .000
                    +      1.0 02:O-7             5.28     .117 No_date   28:37   25.16  n/a      .000
                 SUM=      1.0 01:FF            261.31    6.036 No_date   28:19   30.01  n/a      .000
R0100:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:FF            261.31    6.036 No_date   28:19   30.01  n/a      .000
      [RDT= 1.00] out<-    1.0 01:DRAIN1        261.31    5.843 No_date   28:23   30.01  n/a      .000
       [L/S/n=  302./1.000/.043]
       {Vmax=  .853:Dmax=  .797}
R0100:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D1              1.17     .110 No_date   28:12   50.22 .567      .000
       [CN= 84.0:  N= 3.00:  Tp=  .28]
       [IaREC= 4.00:  SMIN= 21.09:  SMAX=140.62:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A1              2.50     .572 No_date   28:01   70.42 .795      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A1              2.50     .572 No_date   28:01   70.42  n/a      .000
                 out <=    1.0 01:A1-STR          2.50     .173 No_date   28:17   70.42  n/a      .000
            overflow <=    1.0 03:A1-OVF           .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.7765E-01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-2             .59     .115 No_date   28:00   55.78 .630      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-2             .59     .115 No_date   28:00   55.78  n/a      .000
                 out <=    1.0 01:ST2STR           .59     .053 No_date   28:13   55.78  n/a      .000
            overflow <=    1.0 03:ST2OVF           .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.5215E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:O-8            60.55    1.639 No_date   29:04   38.99 .440      .000
       [CN= 69.0:  N= 3.00:  Tp= 1.00]
       [IaREC= 4.00:  SMIN= 44.82:  SMAX=298.82:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE      ->    1.0 02:O-8            60.55    1.639 No_date   29:04   38.99  n/a      .000
      [RDT= 1.00] out<-    1.0 01:O8PIPE         60.55    1.631 No_date   29:07   38.99  n/a      .000
       [L/S/n=  335./ .100/.013]
       {Vmax= 1.305:Dmax=  .697}
       {HGTH= 1.20:WDTH= 1.80}
R0100:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN1        261.31    5.843 No_date   28:23   30.01  n/a      .000
                    +      1.0 02:D1              1.17     .110 No_date   28:12   50.22  n/a      .000
                    +      1.0 02:A1-STR          2.50     .173 No_date   28:17   70.42  n/a      .000
                    +      1.0 02:A1-OVF           .00     .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:ST2STR           .59     .053 No_date   28:13   55.78  n/a      .000
                    +      1.0 02:ST2OVF           .00     .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:O8PIPE         60.55    1.631 No_date   29:07   38.99  n/a      .000
                 SUM=      1.0 01:ST2-IN        326.12    7.203 No_date   28:33   32.11  n/a      .000
R0100:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A7              3.51     .784 No_date   28:01   70.42 .795      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A7              3.51     .784 No_date   28:01   70.42  n/a      .000
                 out <=    1.0 01:A7-STR          3.51     .240 No_date   28:18   70.42  n/a      .000
            overflow <=    1.0 03:A7-OVF           .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.1088E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-3             .71     .138 No_date   28:00   55.78 .630      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-3             .71     .138 No_date   28:00   55.78  n/a      .000
                 out <=    1.0 01:ST3STR           .71     .064 No_date   28:13   55.78  n/a      .000
            overflow <=    1.0 03:ST3OVF           .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.6043E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST2-IN        326.12    7.203 No_date   28:33   32.11  n/a      .000
                    +      1.0 02:A7-STR          3.51     .240 No_date   28:18   70.42  n/a      .000
                    +      1.0 02:A7-OVF           .00     .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:ST3STR           .71     .064 No_date   28:13   55.78  n/a      .000
                    +      1.0 02:ST3OVF           .00     .000 No_date    0:00     .00  n/a      .000
                 SUM=      1.0 01:PT2ST3        330.34    7.487 No_date   28:31   32.57  n/a      .000
R0100:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:PT2ST3        330.34    7.487 No_date   28:31   32.57  n/a      .000
      [RDT= 1.00] out<-    1.0 01:DRAIN2        330.34    6.868 No_date   28:55   32.57  n/a      .000
       [L/S/n=  592./ .230/.043]
       {Vmax=  .611:Dmax= 1.215}
R0100:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D2              2.28     .087 No_date   29:02   50.22 .567      .000
       [CN= 84.0:  N= 3.00:  Tp=  .99]
       [IaREC= 4.00:  SMIN= 21.09:  SMAX=140.62:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A17            12.04    2.382 No_date   28:03   70.42 .795      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A17            12.04    2.382 No_date   28:03   70.42  n/a      .000
                 out <=    1.0 01:A17STR         12.04     .801 No_date   28:24   70.42  n/a      .000
            overflow <=    1.0 03:A17OVF           .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.3671E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-4             .35     .069 No_date   28:00   55.78 .630      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-4             .35     .069 No_date   28:00   55.78  n/a      .000
                 out <=    1.0 01:ST4STR           .35     .032 No_date   28:13   55.78  n/a      .000
            overflow <=    1.0 03:ST4OVF           .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.3372E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:A18             5.30    1.139 No_date   28:01   70.42 .795      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:A18             5.30    1.139 No_date   28:01   70.42  n/a      .000
                 out <=    1.0 01:A18STR          5.30     .360 No_date   28:20   70.42  n/a      .000
            overflow <=    1.0 03:A18OVF           .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.1636E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN2        330.34    6.868 No_date   28:55   32.57  n/a      .000
                    +      1.0 02:D2              2.28     .087 No_date   29:02   50.22  n/a      .000
                    +      1.0 02:A17STR         12.04     .801 No_date   28:24   70.42  n/a      .000
                    +      1.0 02:A17OVF           .00     .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:ST4STR           .35     .032 No_date   28:13   55.78  n/a      .000
                    +      1.0 02:ST4OVF           .00     .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:A18STR          5.30     .360 No_date   28:20   70.42  n/a      .000
                    +      1.0 02:A18OVF           .00     .000 No_date    0:00     .00  n/a      .000
                 SUM=      1.0 01:PT3ST4        350.31    7.785 No_date   28:52   34.58  n/a      .000
R0100:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:PT3ST4        350.31    7.785 No_date   28:52   34.58  n/a      .000
      [RDT= 1.00] out<-    1.0 01:DRAIN3        350.31    7.474 No_date   29:08   34.58  n/a      .000
       [L/S/n=  525./ .230/.043]
       {Vmax=  .628:Dmax= 1.257}
R0100:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:D3              2.51     .132 No_date   28:43   54.04 .610      .000
       [CN= 86.0:  N= 3.00:  Tp=  .73]
       [IaREC= 4.00:  SMIN= 17.43:  SMAX=116.21:  SK= .010]
       [InterEventTime=  12.00]
R0100:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:C1              3.41     .763 No_date   28:01   70.42 .795      .000
       [XIMP=.68:TIMP=.85]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:C1              3.41     .763 No_date   28:01   70.42  n/a      .000
                 out <=    1.0 01:C1-STR          3.41     .232 No_date   28:18   70.42  n/a      .000
            overflow <=    1.0 03:C1-OVF           .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.1056E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:ST-5             .45     .088 No_date   28:00   55.78 .630      .000
       [XIMP=.46:TIMP=.57]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:ST-5             .45     .088 No_date   28:00   55.78  n/a      .000
                 out <=    1.0 01:ST5STR           .45     .041 No_date   28:13   55.78  n/a      .000
            overflow <=    1.0 03:ST5OVF           .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.4111E-02  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:DRAIN3        350.31    7.474 No_date   29:08   34.58  n/a      .000
                    +      1.0 02:D3              2.51     .132 No_date   28:43   54.04  n/a      .000
                    +      1.0 02:C1-STR          3.41     .232 No_date   28:18   70.42  n/a      .000
                    +      1.0 02:C1-OVF           .00     .000 No_date    0:00     .00  n/a      .000
                    +      1.0 02:ST5STR           .45     .041 No_date   28:13   55.78  n/a      .000
                    +      1.0 02:ST5OVF           .00     .000 No_date    0:00     .00  n/a      .000
                 SUM=      1.0 01:ST5-E         356.68    7.731 No_date   29:07   35.08  n/a      .000
R0100:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:STRAND          7.59    1.163 No_date   28:08   68.85 .777      .000
       [XIMP=.64:TIMP=.85]
       [Horton parameters:  Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00:  IaRECper=   4.00]
R0100:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:STRAND          7.59    1.163 No_date   28:08   68.85  n/a      .000
                 out <=    1.0 01:S-POND          7.59     .200 No_date   29:01   68.85  n/a      .000
            overflow <=    1.0 03:S-OVF            .00     .000 No_date    0:00     .00  n/a      .000
      {MkStoUsed=.3382E+00  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:ST5-E         356.68    7.731 No_date   29:07   35.08  n/a      .000
                    +      1.0 02:S-POND          7.59     .200 No_date   29:01   68.85  n/a      .000
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```
                        +      1.0 02:S-OVF             .00     .000 No_date    0:00     .00  n/a      .000
                     SUM=      1.0 01:SSAOUT         364.27    7.924 No_date   29:06   35.79  n/a      .000
R0100:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:SSAOUT         364.27    7.924 No_date   29:06   35.79  n/a      .000
      fname :SSAOUT.0100
      remark:SSAOUT
R0100:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:Area-A          66.75    9.945 No_date   28:08   67.64 .764      .000
      [XIMP=.64:TIMP=.80]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:Area-A          66.75    9.945 No_date   28:08   67.64  n/a      .000
      fname :Area-A.0100
      remark:SMWF-A Inflow
R0100:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:Area-A          66.75    9.945 No_date   28:08   67.64  n/a      .000
                 out <=        1.0 01:SWMF-A          66.75    1.357 No_date   29:10   67.64  n/a      .000
            overflow <=        1.0 03:SWMAOV            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.3051E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:SWMF-A          66.75    1.357 No_date   29:10   67.64  n/a      .000
      fname :SWMF-A.0100
      remark:SMWF-A Outflow
R0100:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:SSAOUT         364.27    7.924 No_date   29:06   35.79  n/a      .000
                        +      1.0 02:SWMF-A          66.75    1.357 No_date   29:10   67.64  n/a      .000
                        +      1.0 02:SWMAOV            .00     .000 No_date    0:00     .00  n/a      .000
                     SUM=      1.0 01:PT4ST5         431.02    9.279 No_date   29:07   40.72  n/a      .000
R0100:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:C6               1.87     .433 No_date   28:01   70.42 .795      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:C6               1.87     .433 No_date   28:01   70.42  n/a      .000
                 out <=        1.0 01:C6-STR           1.87     .129 No_date   28:16   70.42  n/a      .000
            overflow <=        1.0 03:C6-OVF            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.5845E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:C7               1.62     .381 No_date   28:00   70.42 .795      .000
      [XIMP=.68:TIMP=.85]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:C7               1.62     .381 No_date   28:00   70.42  n/a      .000
                 out <=        1.0 01:C7-STR           1.62     .112 No_date   28:16   70.42  n/a      .000
            overflow <=        1.0 03:C7-OVF            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.5036E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:ST-6              .41     .081 No_date   28:00   55.78 .630      .000
      [XIMP=.46:TIMP=.57]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:ST-6              .41     .081 No_date   28:00   55.78  n/a      .000
                 out <=        1.0 01:ST6STR            .41     .037 No_date   28:13   55.78  n/a      .000
            overflow <=        1.0 03:ST6OVF            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.3877E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:PT4ST5         431.02    9.279 No_date   29:07   40.72  n/a      .000
                        +      1.0 02:C6-STR           1.87     .129 No_date   28:16   70.42  n/a      .000
                        +      1.0 02:C6-OVF            .00     .000 No_date    0:00     .00  n/a      .000
                        +      1.0 02:C7-STR           1.62     .112 No_date   28:16   70.42  n/a      .000
                        +      1.0 02:C7-OVF            .00     .000 No_date    0:00     .00  n/a      .000
                        +      1.0 02:ST6STR            .41     .037 No_date   28:13   55.78  n/a      .000
                        +      1.0 02:ST6OVF            .00     .000 No_date    0:00     .00  n/a      .000
                     SUM=      1.0 01:PT5ST6         434.92    9.426 No_date   29:06   40.97  n/a      .000
R0100:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->         1.0 02:PT5ST6         434.92    9.426 No_date   29:06   40.97  n/a      .000
     [RDT= 1.00] out<-         1.0 01:DRAIN4         434.92    9.061 No_date   29:16   40.97  n/a      .000
      [L/S/n=  324./ .100/.043]
      {Vmax=  .507:Dmax= 1.619}
R0100:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD          1.0 01:D4               1.73     .112 No_date   28:33   57.07 .644      .000
      [CN= 88.0: N= 3.00: Tp=  .60]
      [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
      [InterEventTime=  12.00]
R0100:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:Area-B          24.04    4.871 No_date   28:02   66.17 .747      .000
      [XIMP=.62:TIMP=.77]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:Area-B          24.04    4.871 No_date   28:02   66.17  n/a      .000
                 out <=        1.0 01:SWMF-B          24.04     .641 No_date   28:41   66.17  n/a      .000
            overflow <=        1.0 03:SWMBOVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.9727E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:DRAIN4         434.92    9.061 No_date   29:16   40.97  n/a      .000
                        +      1.0 02:D4               1.73     .112 No_date   28:33   57.07  n/a      .000
                        +      1.0 02:SWMF-B          24.04     .641 No_date   28:41   66.17  n/a      .000
                        +      1.0 02:SWMBOVF           .00     .000 No_date    0:00     .00  n/a      .000
                     SUM=      1.0 01:D4-EX          460.69    9.722 No_date   29:15   42.35  n/a      .000
R0100:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->         1.0 02:D4-EX          460.69    9.722 No_date   29:15   42.35  n/a      .000
     [RDT= 1.00] out<-         1.0 01:DRAIN5         460.69    9.564 No_date   29:26   42.35  n/a      .000
      [L/S/n=  413./ .160/.033]
      {Vmax=  .703:Dmax= 1.106}
R0100:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD          1.0 01:D5               1.90     .104 No_date   28:40   54.04 .610      .000
      [CN= 86.0: N= 3.00: Tp=  .69]
      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
      [InterEventTime=  12.00]
R0100:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD          1.0 01:O-13SDF          9.74     .675 No_date   28:21   50.83 .574      .000
      [CN= 81.0: N= 3.00: Tp=  .43]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0100:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:O-13SDF          9.74     .675 No_date   28:21   50.83  n/a      .000
                 out <=        1.0 01:SDF              9.74     .070 No_date   30:50   50.83  n/a      .000
            overflow <=        1.0 03:OVFSDF            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.2813E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:DRAIN5         460.69    9.564 No_date   29:26   42.35  n/a      .000
                        +      1.0 02:D5               1.90     .104 No_date   28:40   54.04  n/a      .000
                        +      1.0 02:SDF              9.74     .070 No_date   30:50   50.83  n/a      .000
                     SUM=      1.0 01:PT6MC          472.33    9.694 No_date   29:26   42.57  n/a      .000
R0100:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD          1.0 01:O-15            10.67     .940 No_date   28:13   49.72 .561      .000
      [CN= 82.0: N= 3.00: Tp=  .30]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0100:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:PT6MC          472.33    9.694 No_date   29:26   42.57  n/a      .000
                        +      1.0 02:O-15            10.67     .940 No_date   28:13   49.72  n/a      .000
                     SUM=      1.0 01:M-C            483.00    9.844 No_date   29:26   42.73  n/a      .000
R0100:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->         1.0 02:M-C            483.00    9.844 No_date   29:26   42.73  n/a      .000
     [RDT= 1.00] out<-         1.0 01:O-14Ch         483.00    8.880 No_date   29:52   42.73  n/a      .000
      [L/S/n=  845./ .100/.033]
      {Vmax=  .556:Dmax= 1.861}
R0100:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD          1.0 01:O-14             5.00     .722 No_date   28:04   49.72 .561      .000
      [CN= 82.0: N= 3.00: Tp=  .13]
      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
      [InterEventTime=  12.00]
R0100:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:O-14Ch         483.00    8.880 No_date   29:52   42.73  n/a      .000
                        +      1.0 02:O-14             5.00     .722 No_date   28:04   49.72  n/a      .000
                     SUM=      1.0 01:OKEEFE         488.00    8.925 No_date   29:52   42.80  n/a      .000
#****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#****************************************************************************
R0100:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:S-1-D2          18.67    3.580 No_date   28:01   70.58 .797      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:S-1-D2          18.67    3.580 No_date   28:01   70.58  n/a      .000
     Major System   /          1.0 02:S-1-D2J           .00     .000 No_date    0:00     .00  n/a      .000
     Minor System   \          1.0 03:S-1-D2N         18.67    2.097 No_date   27:52   70.87  n/a      .000
      {MjSysSto=.8794E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:S-1-D2J           .00     .000 No_date    0:00     .00  n/a      .000
                        +      1.0 02:S-1-D2N         18.67    2.097 No_date   27:52   70.87  n/a      .000
                     SUM=      1.0 01:S-1-D2S         18.67    2.097 No_date   27:52   70.87  n/a      .000
R0100:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:S-1-D2S         18.67    2.097 No_date   27:52   70.87  n/a      .000
                 out <=        1.0 01:S-1-D2R         17.89     .223 No_date   28:30   70.87  n/a      .000
            overflow <=        1.0 03:S-1-D2Rovf        .78     .526 No_date   28:30   70.87  n/a      .000
     {MxStoUsed=.7445E+00  m3, TotOvfVol=.5562E-01  m3, N-Ovf=    3, TotDurOvf=    1.hrs}
R0100:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:S-1-D3           6.79    1.405 No_date   28:00   70.58 .797      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:S-1-D3           6.79    1.405 No_date   28:00   70.58  n/a      .000
     Major System   /          1.0 02:S-1-D3J           .00     .000 No_date    0:00     .00  n/a      .000
     Minor System   \          1.0 03:S-1-D3N          6.79     .831 No_date   27:51   70.87  n/a      .000
      {MjSysSto=.3005E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:S-1-D3J           .00     .000 No_date    0:00     .00  n/a      .000
                        +      1.0 02:S-1-D3N          6.79     .831 No_date   27:51   70.87  n/a      .000
                     SUM=      1.0 01:S-1-D3S          6.79     .831 No_date   27:51   70.87  n/a      .000
R0100:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:S-1-D3S          6.79     .831 No_date   27:51   70.87  n/a      .000
                 out <=        1.0 01:S-1-D3R          6.51     .081 No_date   28:27   70.87  n/a      .000
            overflow <=        1.0 03:S-1-D3Rovf        .28     .186 No_date   28:27   70.87  n/a      .000
     {MxStoUsed=.2708E+00  m3, TotOvfVol=.2018E-01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0100:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:N_OK         53064.36  145.101 No_date   33:45   38.81  n/a      .000
                        +      1.0 02:OKEEFE         488.00    8.925 No_date   29:52   42.80  n/a      .000
                        +      1.0 02:S-1-D2R         17.89     .223 No_date   28:30   70.87  n/a      .000
                        +      1.0 02:S-1-D3R          6.51     .081 No_date   28:27   70.87  n/a      .000
                        +      1.0 02:S-1-D2Rovf        .78     .526 No_date   28:30   70.87  n/a      .000
                        +      1.0 02:S-1-D3Rovf        .28     .186 No_date   28:27   70.87  n/a      .000
                     SUM=      1.0 01:SN_OK        53577.81  148.295 No_date   33:05   38.86  n/a      .000
R0100:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:SN_OK        53577.81  148.295 No_date   33:05   38.86  n/a      .000
      fname :SN_OK.0100
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
R0100:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->         1.0 02:SN_OK        53577.81  148.295 No_date   33:05   38.86  n/a      .000
     [RDT= 1.00] out<-         1.0 01:N_FO         53577.81  147.939 No_date   33:45   38.86  n/a      .000
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.295:Dmax= 3.590}
#****************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
#****************************************************************************
R0100:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:FOSTER         325.44   36.526 No_date   28:10   65.13 .735      .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
#****************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#      and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#****************************************************************************
R0100:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:FOSTER         325.44   36.526 No_date   28:10   65.13  n/a      .000
                 out <=        1.0 01:P_FOS          325.44    9.091 No_date   29:01   65.13  n/a      .000
            overflow <=        1.0 03:FO-OVF            .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.8792E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:P_FOS          325.44    9.091 No_date   29:01   65.13  n/a      .000
                        +      1.0 02:FO-OVF            .00     .000 No_date    0:00     .00  n/a      .000
                     SUM=      1.0 01:FOSTER-OUT     325.44    9.091 No_date   29:01   65.13  n/a      .000
#****************************************************************************
R0100:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:W_CLAR_BRA      73.29   11.683 No_date   28:05   70.23 .793      .000
      [XIMP=.60:TIMP=.65]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:W_CLAR_BRA      73.29   11.683 No_date   28:05   70.23  n/a      .000
                 out <=        1.0 01:MS_P10          73.29    1.240 No_date   29:12   70.23  n/a      .000
            overflow <=        1.0 03:P10-OVF           .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.2223E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:S-1-FO-D2        4.94     .896 No_date   28:00   65.13 .735      .000
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0100:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:S-1-FO-D2        4.94     .896 No_date   28:00   65.13  n/a      .000
     Major System   /          1.0 02:S-1-FO-D2J        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System   \          1.0 03:S-1-FO-D2N       4.94     .508 No_date   27:51   65.14  n/a      .000
      {MjSysSto=.2151E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:S-1-FO-D2J        .00     .000 No_date    0:00     .00  n/a      .000
                        +      1.0 02:S-1-FO-D2N       4.94     .508 No_date   27:51   65.14  n/a      .000
                     SUM=      1.0 01:S-1-FO-D2S       4.94     .508 No_date   27:51   65.14  n/a      .000
R0100:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:S-1-FO-D2S       4.94     .508 No_date   27:51   65.14  n/a      .000
                 out <=        1.0 01:S-1-FO-D2R       4.94     .057 No_date   29:33   65.14  n/a      .000
            overflow <=        1.0 03:S-1FOD2ovf        .00     .000 No_date    0:00     .00  n/a      .000
     {MxStoUsed=.1916E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:FOSTER-OUT     325.44    9.091 No_date   29:01   65.13  n/a      .000
                        +      1.0 02:S-1-FO-D2R       4.94     .057 No_date   29:33   65.14  n/a      .000
                        +      1.0 02:S-1FOD2ovf        .00     .000 No_date    0:00     .00  n/a      .000
                     SUM=      1.0 01:980            330.38    9.147 No_date   29:01   65.13  n/a      .000
R0100:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:980            330.38    9.147 No_date   29:01   65.13  n/a      .000
      fname :980.0100
      remark:Total Flows at Station 980 on Foster Drain
#
# Hydrograph from Node Foster SWM(Station 980)to Node at station 520
# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
#
R0100:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->         1.0 02:980            330.38    9.147 No_date   29:01   65.13  n/a      .000
 *   [RDT= 1.00] out<-         1.0 01:980-out        330.38    8.660 No_date   29:39   65.13  n/a      .000
      [L/S/n=  460./ .043/.035]
      {Vmax=  .540:Dmax= 1.669}
R0100:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:S-1-FO-D1        5.11    1.040 No_date   28:00   69.99 .790      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0100:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:S-1-FO-D1        5.11    1.040 No_date   28:00   69.99  n/a      .000
     Major System   /          1.0 02:S-1-FO-D1J        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System   \          1.0 03:S-1-FO-D1N       5.11     .605 No_date   27:51   70.27  n/a      .000
      {MjSysSto=.2316E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:S-1-FO-D1N       5.11     .605 No_date   27:51   70.27  n/a      .000
                        +      1.0 02:S-1-FO-D1J        .00     .000 No_date    0:00     .00  n/a      .000
                     SUM=      1.0 01:S-1-FO-D1S       5.11     .605 No_date   27:51   70.27  n/a      .000
R0100:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:S-1-FO-D1S       5.11     .605 No_date   27:51   70.27  n/a      .000
                 out <=        1.0 01:S-1-FO-D1R       4.93     .061 No_date   28:29   70.27  n/a      .000
            overflow <=        1.0 03:S-1FOD1ovf        .18     .133 No_date   28:29   70.27  n/a      .000
     {MxStoUsed=.2038E+00  m3, TotOvfVol=.1295E-01  m3, N-Ovf=    3, TotDurOvf=    1.hrs}
R0100:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:980-out        330.38    8.660 No_date   29:39   65.13  n/a      .000
                        +      1.0 02:S-1-FO-D1R       4.93     .061 No_date   28:29   70.27  n/a      .000
                        +      1.0 02:S-1FOD1ovf        .18     .133 No_date   28:29   70.27  n/a      .000
                     SUM=      1.0 01:520            335.49    8.721 No_date   29:39   65.21  n/a      .000
R0100:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    SAVE HYD                   1.0 01:520            335.49    8.721 No_date   29:39   65.21  n/a      .000
      fname :520.0100
      remark:Total Flows at Sation 520 on Foster Drain
# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
#
R0100:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->         1.0 02:520            335.49    8.721 No_date   29:39   65.21  n/a      .000
     [RDT= 1.00] out<-         1.0 01:520-out        335.49    8.685 No_date   29:42   65.21  n/a      .000
      [L/S/n=  860./ .587/.035]
      {Vmax= 1.594:Dmax=  .799}
R0100:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:S-1-FO-F-D      14.96    2.819 No_date   28:01   69.99 .790      .000
      [XIMP=.65:TIMP=.65]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
R0100:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    COMPUTE DUALHYD            1.0 01:S-1-FO-F-D      14.96    2.819 No_date   28:01   69.99  n/a      .000
     Major System   /          1.0 02:S-1FO-F-DJ        .00     .000 No_date    0:00     .00  n/a      .000
     Minor System   \          1.0 03:S-1FO-F-DN      14.96    1.615 No_date   27:51   70.35  n/a      .000
      {MjSysSto=.7376E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ADD HYD                    1.0 02:S-1FO-F-DJ        .00     .000 No_date    0:00     .00  n/a      .000
                        +      1.0 02:S-1FO-F-DN      14.96    1.615 No_date   27:51   70.35  n/a      .000
                     SUM=      1.0 01:S-1FO-F-DS      14.96    1.615 No_date   27:51   70.35  n/a      .000
R0100:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->         1.0 02:S-1FO-F-DS      14.96    1.615 No_date   27:51   70.35  n/a      .000
                 out <=        1.0 01:S-1FO-F-DR      14.40     .179 No_date   28:32   70.35  n/a      .000
            overflow <=        1.0 03:S-1FoFDovf        .56     .392 No_date   28:32   70.35  n/a      .000
     {MxStoUsed=.5966E+00  m3, TotOvfVol=.3962E-01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0100:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
    CONTINUOUS STANDHYD        1.0 01:S-1-D8           5.27    1.181 No_date   28:01   51.48 .581      .000
      [XIMP=.32:TIMP=.65]
      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
```

```
        [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00182-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D8          5.27     1.181 No_date   28:01   51.48  n/a      .000
      Major System   /       1.0 02:S-1-D8J          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:S-1-D8N         5.27      .672 No_date   27:52   51.52  n/a      .000
        {MjSysSto=.3055E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00183-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D8J          .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:S-1-D8N         5.27      .672 No_date   27:52   51.52  n/a      .000
                    SUM=     1.0 01:S-1-D8S         5.27      .672 No_date   27:52   51.52  n/a      .000
R0100:C00184-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D8S         5.27      .672 No_date   27:52   51.52  n/a      .000
                 out  <=     1.0 01:S-1-D8R         5.27      .061 No_date   28:45   51.52  n/a      .000
            overflow <=      1.0 03:S-1-D8Rovf       .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.2034E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00185-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:S-1-A          75.88     3.578 No_date   28:36   45.95 .519      .000
        [CN= 77.0:  N= 3.00:  Tp=  .62]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
R0100:C00186-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:W_CLAR_UND     35.65     1.108 No_date   29:10   45.95 .519      .000
        [CN= 77.0:  N= 3.00:  Tp= 1.10]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
R0100:C00187-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_FO        53577.81   147.939 No_date   33:45   38.86  n/a      .000
                       +     1.0 02:520-out       335.49     8.685 No_date   29:42   65.21  n/a      .000
                       +     1.0 02:MS_P10         73.29     1.240 No_date   29:12   70.23  n/a      .000
                       +     1.0 02:P10-OVF          .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:W_CLAR_UND     35.65     1.108 No_date   29:10   45.95  n/a      .000
                       +     1.0 02:S-1FoFDovf       .56      .392 No_date   28:32   70.35  n/a      .000
                       +     1.0 02:S-1FO-F-DR     14.40      .179 No_date   28:32   70.35  n/a      .000
                       +     1.0 02:S-1-D8Rovf       .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:S-1-D8R         5.27      .061 No_date   28:45   51.52  n/a      .000
                       +     1.0 02:S-1-A          75.88     3.578 No_date   28:36   45.95  n/a      .000
                    SUM=     1.0 01:SN_FO       54118.35   153.648 No_date   33:27   39.09  n/a      .000
R0100:C00188-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_FO       54118.35   153.648 No_date   33:27   39.09  n/a      .000
        fname :SN_FO.0100
        remark:Total Flows at Foster Drain
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
R0100:C00189-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:SN_FO       54118.35   153.648 No_date   33:27   39.09  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:N_CE        54118.35   153.522 No_date   33:28   39.09  n/a      .000
        [L/S/n=  159./ .082/.035]
        {Vmax= 1.456:Dmax= 4.475}
#***************************************************************************
#     Catchment S-1
#     - To Jock River (north and south of Jock)
#     - Primarily agricultural fields; portion of sand quarry
#***************************************************************************
R0100:C00190-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD       1.0 01:S-1-B          55.36     3.260 No_date   28:23   45.95 .519      .000
        [CN= 77.0:  N= 3.00:  Tp=  .45]
        [IaREC= 4.00:  SMIN= 31.15:  SMAX=207.66:  SK= .010]
        [InterEventTime=  12.00]
#     -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
#     -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
#     -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
R0100:C00191-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:S-1-D1         21.67     4.117 No_date   28:01   70.58 .797      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00192-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D1         21.67     4.117 No_date   28:01   70.58  n/a      .000
      Major System   /       1.0 02:S-1-D1J          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:S-1-D1N        21.67     2.409 No_date   27:52   70.60  n/a      .000
        {MjSysSto=.1024E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00193-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D1J          .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:S-1-D1N        21.67     2.409 No_date   27:52   70.60  n/a      .000
                    SUM=     1.0 01:S-1-D1S        21.67     2.409 No_date   27:52   70.60  n/a      .000
R0100:C00194-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D1S        21.67     2.409 No_date   27:52   70.60  n/a      .000
                 out  <=     1.0 01:S-1-D1R        20.84      .259 No_date   28:32   70.60  n/a      .000
            overflow <=      1.0 03:S-1-D1Rovf       .83      .580 No_date   28:32   70.60  n/a      .000
      {MxStoUsed=.8642E+00  m3, TotOvfVol=.5868E-01  m3, N-Ovf=     3, TotDurOvf=     1.hrs}
R0100:C00195-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:S-1-D4          3.28      .705 No_date   28:00   70.58 .797      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00196-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D4          3.28      .705 No_date   28:00   70.58  n/a      .000
      Major System   /       1.0 02:S-1-D4J          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:S-1-D4N         3.28      .421 No_date   27:51   70.91  n/a      .000
        {MjSysSto=.1397E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00197-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D4J          .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:S-1-D4N         3.28      .421 No_date   27:51   70.91  n/a      .000
                    SUM=     1.0 01:S-1-D4S         3.28      .421 No_date   27:51   70.91  n/a      .000
R0100:C00198-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D4S         3.28      .421 No_date   27:51   70.91  n/a      .000
                 out  <=     1.0 01:S-1-D4R         3.14      .039 No_date   28:25   70.91  n/a      .000
            overflow <=      1.0 03:S-1-D4Rovf       .14      .090 No_date   28:25   70.91  n/a      .000
      {MxStoUsed=.1308E+00  m3, TotOvfVol=.9840E-02  m3, N-Ovf=     3, TotDurOvf=     1.hrs}
R0100:C00199-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:S-1-D5         12.84     2.544 No_date   28:01   70.58 .797      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00200-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D5         12.84     2.544 No_date   28:01   70.58  n/a      .000
      Major System   /       1.0 02:S-1-D5J          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:S-1-D5N        12.84     1.500 No_date   27:51   70.80  n/a      .000
        {MjSysSto=.5837E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00201-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D5J          .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:S-1-D5N        12.84     1.500 No_date   27:51   70.80  n/a      .000
                    SUM=     1.0 01:S-1-D5S        12.84     1.500 No_date   27:51   70.80  n/a      .000
R0100:C00202-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D5S        12.84     1.500 No_date   27:51   70.80  n/a      .000
                 out  <=     1.0 01:S-1-D5R        12.31      .154 No_date   28:29   70.80  n/a      .000
            overflow <=      1.0 03:S-1-D5Rovf       .53      .353 No_date   28:29   70.80  n/a      .000
      {MxStoUsed=.5120E+00  m3, TotOvfVol=.3721E-01  m3, N-Ovf=     2, TotDurOvf=     1.hrs}
R0100:C00203-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:S-1-D6          1.75      .382 No_date   28:00   70.58 .797      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00204-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D6          1.75      .382 No_date   28:00   70.58  n/a      .000
      Major System   /       1.0 02:S-1-D6J          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:S-1-D6N         1.75      .232 No_date   27:51   70.75  n/a      .000
        {MjSysSto=.7255E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00205-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D6J          .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:S-1-D6N         1.75      .232 No_date   27:51   70.75  n/a      .000
                    SUM=     1.0 01:S-1-D6S         1.75      .232 No_date   27:51   70.75  n/a      .000
R0100:C00206-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D6S         1.75      .232 No_date   27:51   70.75  n/a      .000
                 out  <=     1.0 01:S-1-D6R         1.68      .021 No_date   28:25   70.75  n/a      .000
            overflow <=      1.0 03:S-1-D6Rovf       .07      .047 No_date   28:25   70.75  n/a      .000
      {MxStoUsed=.6980E-01  m3, TotOvfVol=.4972E-02  m3, N-Ovf=     3, TotDurOvf=     1.hrs}
R0100:C00207-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:S-1-D7          2.03      .442 No_date   28:00   70.58 .797      .000
        [XIMP=.65:TIMP=.65]
        [LOSS= 2 :CN= 75.0]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00208-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:S-1-D7          2.03      .442 No_date   28:00   70.58  n/a      .000
      Major System   /       1.0 02:S-1-D7J          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:S-1-D7N         2.03      .265 No_date   27:51   70.90  n/a      .000
        {MjSysSto=.8643E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00209-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:S-1-D7J          .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:S-1-D7N         2.03      .265 No_date   27:51   70.90  n/a      .000
                    SUM=     1.0 01:S-1-D7S         2.03      .265 No_date   27:51   70.90  n/a      .000
R0100:C00210-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:S-1-D7S         2.03      .265 No_date   27:51   70.90  n/a      .000
                 out  <=     1.0 01:S-1-D7R         1.95      .024 No_date   28:25   70.90  n/a      .000
            overflow <=      1.0 03:S-1-D7Rovf       .08      .055 No_date   28:25   70.90  n/a      .000
      {MxStoUsed=.8100E-01  m3, TotOvfVol=.6001E-02  m3, N-Ovf=     2, TotDurOvf=     1.hrs}
#      Catchment W_CLAR
#      - To West Clarke Drain (south of the Jock)
#      - Subdivision with 43% imp. as per Barrhaven South MSS
#      - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
#      - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
#***************************************************************************
R0100:C00211-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:W_CLAR_MJ       1.77      .332 No_date   28:00   66.20 .747      .000
        [XIMP=.46:TIMP=.59]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
# 5-Year + 12% Capture
R0100:C00212-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:W_CLAR_MJ       1.77      .332 No_date   28:00   66.20  n/a      .000
                 out  <=     1.0 01:W_CLAR_MIn      1.69      .213 No_date   27:52   66.22  n/a      .000
            overflow <=      1.0 03:W_CLAR_MJj       .08      .115 No_date   28:01   66.20  n/a      .000
      {MxStoUsed=.1530E-03  m3, TotOvfVol=.5337E-02  m3, N-Ovf=     1, TotDurOvf=     0.hrs}
R0100:C00213-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:W_CLAR_ALL    119.40    19.638 No_date   28:04   70.23 .793      .000
        [XIMP=.60:TIMP=.65]
        [LOSS= 2 :CN= 77.0]
        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
        [SMIN= 31.15:  SMAX=207.66:  SK= .010]
R0100:C00214-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:W_CLAR_ALL    119.40    19.638 No_date   28:04   70.23  n/a      .000
                       +     1.0 02:W_CLAR_MJj       .08      .115 No_date   28:01   66.20  n/a      .000
                    SUM=     1.0 01:W_CLAR        119.48    19.657 No_date   28:04   70.22  n/a      .000
R0100:C00215-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:W_CLAR        119.48    19.657 No_date   28:04   70.22  n/a      .000
        fname :W_CLAR.0100
        remark:Total Flows to West Clarke
#***************************************************************************
#     West Clarke Pond 2
#     - Rating curve obtained from Barrhaven South MSS modeling
#     - Tributary Drainage Area to MSS Pond 2 = 241 ha
#***************************************************************************
R0100:C00216-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:W_CLAR        119.48    19.657 No_date   28:04   70.22  n/a      .000
                 out  <=     1.0 01:MS_P2         119.48    13.064 No_date   28:13   70.22  n/a      .000
            overflow <=      1.0 03:P2-OVF           .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.3189E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=     0.hrs}
#***************************************************************************
R0100:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:N_CE        54118.35   153.522 No_date   33:28   39.09  n/a      .000
                       +     1.0 02:S-1-D4R         3.14      .039 No_date   28:25   70.91  n/a      .000
                       +     1.0 02:S-1-D5R        12.31      .154 No_date   28:29   70.80  n/a      .000
                       +     1.0 02:S-1-D4Rovf       .14      .090 No_date   28:25   70.91  n/a      .000
                       +     1.0 02:S-1-D5Rovf       .53      .353 No_date   28:29   70.80  n/a      .000
                       +     1.0 02:MS_P2         119.48    13.064 No_date   28:13   70.22  n/a      .000
                       +     1.0 02:P2-OVF           .00      .000 No_date    0:00     .00  n/a      .000
                    SUM=     1.0 01:SN_CE       54253.95   154.583 No_date   33:28   39.17  n/a      .000
R0100:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:SN_CE       54253.95   154.583 No_date   33:28   39.17  n/a      .000
        fname :SN_CE.0100
        remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0100:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:SN_CE       54253.95   154.583 No_date   33:28   39.17  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:5737        54253.95   144.603 No_date   35:50   39.17  n/a      .000
        [L/S/n=  270./ .018/.035]
        {Vmax=  .873:Dmax= 5.577}
R0100:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:5737        54253.95   144.603 No_date   35:50   39.17  n/a      .000
                       +     1.0 02:S-1-D1R        20.84      .259 No_date   28:32   70.60  n/a      .000
                       +     1.0 02:S-1-D6R         1.68      .021 No_date   28:25   70.75  n/a      .000
                       +     1.0 02:S-1-D7R         1.95      .024 No_date   28:25   70.90  n/a      .000
                       +     1.0 02:S-1-D1Rovf       .83      .580 No_date   28:32   70.60  n/a      .000
                       +     1.0 02:S-1-D6Rovf       .07      .047 No_date   28:25   70.75  n/a      .000
                       +     1.0 02:S-1-D7Rovf       .08      .055 No_date   28:25   70.90  n/a      .000
                    SUM=     1.0 01:5002        54279.40   144.823 No_date   35:50   39.19  n/a      .000
R0100:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:5002        54279.40   144.823 No_date   35:50   39.19  n/a      .000
        fname :5002.0100
        remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0100:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:5002        54279.40   144.823 No_date   35:50   39.19  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:N_WCa       54279.40   144.811 No_date   35:54   39.19  n/a      .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.319:Dmax= 3.149}
R0100:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:N_WCa       54279.40   144.811 No_date   35:54   39.19  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:N_WCb       54279.40   144.784 No_date   36:02   39.19  n/a      .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.319:Dmax= 3.149}
R0100:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:N_WCb       54279.40   144.784 No_date   36:02   39.19  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:N_WC        54279.40   144.566 No_date   36:23   39.19  n/a      .000
        [L/S/n=  245./ .095/.035]
        {Vmax= 1.319:Dmax= 3.149}
#***************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0100:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->      1.0 02:N_WC        54279.40   144.566 No_date   36:23   39.19  n/a      .000
 *    [RDT= 1.00] out<-      1.0 01:N_KB        54279.40   144.071 No_date   36:49   39.18  n/a      .000
        [L/S/n= 1020./ .050/.035]
        {Vmax= 1.004:Dmax= 3.867}
#***************************************************************************
#     Catchment KEN_BU
#     - To Kennedy-Burnett SWM Facility
#     - Outlets to Fraser-Clarke drain (north of the Jock)
#     - Medium density residential subdivision
#***************************************************************************
#***************************************************************************
#    Existing Kennedy-Burnett SWM Facility
#     - Rating curve obtained from URTKBP
#     - Tributary Drainage Area to Pond = 160 ha
#***************************************************************************
R0100:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:KB-01A         40.82     5.490 No_date   28:09   36.71 .415      .000
        [XIMP=.10:TIMP=.40]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:KB-01A         40.82     5.490 No_date   28:09   36.71  n/a      .000
      Major System   /       1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:KB-01A-MN      40.82     3.600 No_date   28:44   36.91  n/a      .000
        {MjSysSto=.1774E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:KB-01A-MN      40.82     3.600 No_date   28:44   36.91  n/a      .000
                    SUM=     1.0 01:KB-01A-S       40.82     3.600 No_date   28:44   36.91  n/a      .000
R0100:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:KB-01B         31.10     4.072 No_date   28:06   40.61 .458      .000
        [XIMP=.19:TIMP=.38]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:KB-01B         31.10     4.072 No_date   28:06   40.61  n/a      .000
      Major System   /       1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:KB-01B-MN      31.10     1.585 No_date   27:51   40.77  n/a      .000
        {MjSysSto=.3465E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:KB-01B-MN      31.10     1.585 No_date   27:51   40.77  n/a      .000
                    SUM=     1.0 01:KB-01B-S       31.10     1.585 No_date   27:51   40.77  n/a      .000
R0100:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:KB-01C         13.78     2.471 No_date   28:03   41.89 .473      .000
        [XIMP=.20:TIMP=.41]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:KB-01C         13.78     2.471 No_date   28:03   41.89  n/a      .000
      Major System   /       1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:KB-01C-MN      13.78     1.350 No_date   28:37   42.09  n/a      .000
        {MjSysSto=.8650E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:KB-01C-MN      13.78     1.350 No_date   28:37   42.09  n/a      .000
                    SUM=     1.0 01:KB-01C-S       13.78     1.350 No_date   28:37   42.09  n/a      .000
R0100:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:KB-03          84.78    12.777 No_date   28:07   41.33 .467      .000
        [XIMP=.20:TIMP=.39]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:KB-03          84.78    12.777 No_date   28:07   41.33  n/a      .000
      Major System   /       1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:KB-03-MN       84.78     5.270 No_date   29:11   41.33  n/a      .000
        {MjSysSto=.8591E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:KB-03-MN       84.78     5.270 No_date   29:11   41.33  n/a      .000
                    SUM=     1.0 01:KB-03-S        84.78     5.270 No_date   29:11   41.33  n/a      .000
R0100:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD     1.0 01:KB-04           6.95     1.754 No_date   28:00   78.30 .884      .000
        [XIMP=.85:TIMP=.85]
        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
        [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
        [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:KB-04           6.95     1.754 No_date   28:00   78.30  n/a      .000
      Major System   /       1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \       1.0 03:KB-04-MN        6.95      .503 No_date   27:43   78.64  n/a      .000
        {MjSysSto=.1121E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=     0.hrs}
R0100:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                       +     1.0 02:KB-04-MN        6.95      .503 No_date   27:43   78.64  n/a      .000
                    SUM=     1.0 01:KB-04-S         6.95      .503 No_date   27:43   78.64  n/a      .000
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R0100:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-05           5.19     1.406 No_date   28:00   82.69 .934      .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-06          12.93     3.585 No_date   28:00   79.73 .900      .000
       [XIMP=.87:TIMP=.87]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-06          12.93     3.585 No_date   28:00   79.73  n/a      .000
      Major System  /      1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-06-MN       12.93     2.262 No_date   27:51   79.89  n/a      .000
       {MjSysSto=.6247E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +    1.0 02:KB-06-MN       12.93     2.262 No_date   27:51   79.89  n/a      .000
                   SUM=    1.0 01:KB-06-S        12.93     2.262 No_date   27:51   79.89  n/a      .000
R0100:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-11           4.03     1.012 No_date   28:00   67.54 .763      .000
       [XIMP=.68:TIMP=.68]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-11           4.03     1.012 No_date   28:00   67.54  n/a      .000
      Major System  /      1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-11-MN        4.03      .577 No_date   27:51   67.60  n/a      .000
       {MjSysSto=.2184E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +    1.0 02:KB-11-MN        4.03      .577 No_date   27:51   67.60  n/a      .000
                   SUM=    1.0 01:KB-11-S         4.03      .577 No_date   27:51   67.60  n/a      .000
R0100:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S1              4.99     1.426 No_date   28:00   82.69 .934      .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-15           2.15      .548 No_date   28:00   75.20 .849      .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-01A-S       40.82     3.600 No_date   28:44   36.91  n/a      .000
                      +    1.0 02:KB-01B-S       31.10     1.585 No_date   27:51   40.77  n/a      .000
                      +    1.0 02:KB-01C-S       13.78     1.350 No_date   28:37   42.09  n/a      .000
                      +    1.0 02:KB-03-S        84.78     5.270 No_date   29:11   41.33  n/a      .000
                      +    1.0 02:KB-04-S         6.95      .503 No_date   27:43   78.64  n/a      .000
                      +    1.0 02:KB-05           5.19     1.406 No_date   28:00   82.69  n/a      .000
                      +    1.0 02:KB-06-S        12.93     2.262 No_date   27:51   79.89  n/a      .000
                      +    1.0 02:KB-11-S         4.03      .577 No_date   27:51   67.60  n/a      .000
                      +    1.0 02:KB-15           2.15      .548 No_date   28:00   75.20  n/a      .000
                      +    1.0 02:S1              4.99     1.426 No_date   28:00   82.69  n/a      .000
                   SUM=    1.0 01:KB-P1         206.72    18.527 No_date   28:00   46.99  n/a      .000
R0100:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P1         206.72    18.527 No_date   28:00   46.99  n/a      .000
                  out <=   1.0 01:KB-P1R        196.58    12.438 No_date   28:00   46.99  n/a      .000
             overflow <=   1.0 03:KB-P1ovf       10.14     6.062 No_date   28:00   46.99  n/a      .000
      {MxStoUsed=.7330E+00  m3, TotOvfVol=.4763E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0100:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P1R        196.58    12.438 No_date   28:00   46.99  n/a      .000
                      +    1.0 02:KB-P1ovf       10.14     6.062 No_date   28:00   46.99  n/a      .000
                   SUM=    1.0 01:KB-Pond1      206.72    18.500 No_date   28:00   46.99  n/a      .000
R0100:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond1      206.72    18.500 No_date   28:00   46.99  n/a      .000
       fname :KB-Pond1.0100
       remark:Total Flows at KB first pond
R0100:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-07          10.86     2.908 No_date   28:00   79.06 .893      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-07          10.86     2.908 No_date   28:00   79.06  n/a      .000
      Major System  /      1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-07-MN       10.86     2.094 No_date   27:53   79.26  n/a      .000
       {MjSysSto=.3334E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +    1.0 02:KB-07-MN       10.86     2.094 No_date   27:53   79.26  n/a      .000
                   SUM=    1.0 01:KB-07-S        10.86     2.094 No_date   27:53   79.26  n/a      .000
R0100:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-08           6.61     1.609 No_date   28:00   65.36 .738      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-08           6.61     1.609 No_date   28:00   65.36  n/a      .000
      Major System  /      1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-08-MN        6.61     1.058 No_date   27:52   65.50  n/a      .000
       {MjSysSto=.2397E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +    1.0 02:KB-08-MN        6.61     1.058 No_date   27:52   65.50  n/a      .000
                   SUM=    1.0 01:KB-08-S         6.61     1.058 No_date   27:52   65.50  n/a      .000
R0100:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-09           2.60      .727 No_date   28:00   78.38 .885      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_1         2.37      .663 No_date   28:00   78.39 .885      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_2         1.14      .322 No_date   28:00   78.39 .885      .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-12           4.86     1.294 No_date   28:00   74.45 .841      .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-12           4.86     1.294 No_date   28:00   74.45  n/a      .000
      Major System  /      1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-12-MN        4.86      .867 No_date   28:11   74.79  n/a      .000
       {MjSysSto=.1873E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +    1.0 02:KB-12-MN        4.86      .867 No_date   28:11   74.79  n/a      .000
                   SUM=    1.0 01:KB-12-S         4.86      .867 No_date   28:11   74.79  n/a      .000
R0100:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-13          10.19     2.407 No_date   28:00   65.36 .738      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-13          10.19     2.407 No_date   28:00   65.36  n/a      .000
      Major System  /      1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-13-MN       10.19     1.722 No_date   27:54   65.63  n/a      .000
       {MjSysSto=.2806E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +    1.0 02:KB-13-MN       10.19     1.722 No_date   27:54   65.63  n/a      .000
                   SUM=    1.0 01:KB-13-S        10.19     1.722 No_date   27:54   65.63  n/a      .000
R0100:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-14           5.47     1.338 No_date   28:00   65.36 .738      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-14           5.47     1.338 No_date   28:00   65.36  n/a      .000
      Major System  /      1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:KB-14-MN        5.47      .873 No_date   27:52   65.48  n/a      .000
       {MjSysSto=.2041E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +    1.0 02:KB-14-MN        5.47      .873 No_date   27:52   65.48  n/a      .000
                   SUM=    1.0 01:KB-14-S         5.47      .873 No_date   27:52   65.48  n/a      .000
R0100:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_2         3.42      .803 No_date   28:01   70.16 .792      .000
       [XIMP=.71:TIMP=.71]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond1      206.72    18.500 No_date   28:00   46.99  n/a      .000
                      +    1.0 02:KB-07-S        10.86     2.094 No_date   27:53   79.26  n/a      .000
                      +    1.0 02:KB-08-S         6.61     1.058 No_date   27:52   65.50  n/a      .000
                      +    1.0 02:KB-09           2.60      .727 No_date   28:00   78.38  n/a      .000
                      +    1.0 02:KB-10_1         2.37      .663 No_date   28:00   78.38  n/a      .000
                      +    1.0 02:KB-10_2         1.14      .322 No_date   28:00   78.39  n/a      .000
                      +    1.0 02:KB-12-S         4.86      .867 No_date   28:11   74.79  n/a      .000
                      +    1.0 02:KB-13-S        10.19     1.722 No_date   27:54   65.63  n/a      .000
                      +    1.0 02:KB-14-S         5.47      .873 No_date   27:52   65.48  n/a      .000
                      +    1.0 02:KB-16_2         3.42      .803 No_date   28:01   70.16  n/a      .000
                   SUM=    1.0 01:KB-P2         254.24    27.626 No_date   28:00   51.59  n/a      .000
R0100:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P2         254.24    27.626 No_date   28:00   51.59  n/a      .000
                  out <=   1.0 01:KB-P2R        249.74    17.634 No_date   28:06   51.59  n/a      .000
             overflow <=   1.0 03:KB-P2ovf        4.50     6.910 No_date   28:06   51.59  n/a      .000
      {MxStoUsed=.1110E+01  m3, TotOvfVol=.2320E+00  m3, N-Ovf=    2, TotDurOvf=    0.hrs}
R0100:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P2R        249.74    17.634 No_date   28:06   51.59  n/a      .000
                      +    1.0 02:KB-P2ovf        4.50     6.910 No_date   28:06   51.59  n/a      .000
                   SUM=    1.0 01:KB-Pond2      254.24    24.544 No_date   28:06   51.59  n/a      .000
R0100:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond2      254.24    24.544 No_date   28:06   51.59  n/a      .000
       fname :KB-Pond2.0100
       remark:Total Flows at KB second pond
R0100:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_1         2.80      .686 No_date   28:00   72.68 .821      .000
       [XIMP=.75:TIMP=.75]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond2      254.24    24.544 No_date   28:06   51.59  n/a      .000
                      +    1.0 02:KB-16_1         2.80      .686 No_date   28:00   72.68  n/a      .000
                   SUM=    1.0 01:KB-P3         257.04    24.930 No_date   28:06   51.82  n/a      .000
R0100:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P3         257.04    24.930 No_date   28:06   51.82  n/a      .000
                  out <=   1.0 01:KB-P3R          8.56      .051 No_date   17:08   51.81  n/a      .000
             overflow <=   1.0 03:KB-P3ovf      248.48    24.659 No_date   28:07   51.82  n/a      .000
      {MxStoUsed=.1991E-02  m3, TotOvfVol=.1288E+02  m3, N-Ovf=    1, TotDurOvf=   23.hrs}
R0100:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-P3R          8.56      .051 No_date   17:08   51.81  n/a      .000
                      +    1.0 02:KB-P3ovf      248.48    24.659 No_date   28:07   51.82  n/a      .000
                   SUM=    1.0 01:KB-Pond3      257.04    24.710 No_date   28:07   51.82  n/a      .000
R0100:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:KB-Pond3      257.04    24.710 No_date   28:07   51.82  n/a      .000
       fname :KB-Pond3.0100
       remark:Total Flows at KB third pond
#***************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER-CLARKE DRAIN
#***************************************************************************
R0100:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-01           8.03     1.646 No_date   28:01   54.40 .614      .000
       [XIMP=.47:TIMP=.47]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-01           8.03     1.646 No_date   28:01   54.40  n/a      .000
      Major System  /      1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:FC-01-MN        8.03      .756 No_date   27:49   54.46  n/a      .000
       {MjSysSto=.6274E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a      .000
                      +    1.0 02:FC-01-MN        8.03      .756 No_date   27:49   54.46  n/a      .000
                   SUM=    1.0 01:FC-01-S         8.03      .756 No_date   27:49   54.46  n/a      .000
R0100:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-02          16.05     4.197 No_date   28:00   82.69 .934      .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-02          16.05     4.197 No_date   28:00   82.69  n/a      .000
      Major System  /      1.0 02:FC-02-MJ         .45     1.768 No_date   28:05   82.69  n/a      .000
      Minor System  \      1.0 03:FC-02-MN       15.60     1.159 No_date   27:43   82.88  n/a      .000
       {MjSysSto=.2385E+04, TotOvfVol=.3716E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-02-MJ         .45     1.768 No_date   28:05   82.69  n/a      .000
                      +    1.0 02:FC-02-MN       15.60     1.159 No_date   27:43   82.88  n/a      .000
                   SUM=    1.0 01:FC-02-S        16.05     2.927 No_date   28:05   82.87  n/a      .000
R0100:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-03           7.37     1.717 No_date   28:00   64.86 .732      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-03           7.37     1.717 No_date   28:00   64.86  n/a      .000
      Major System  /      1.0 02:FC-03-MJ         .34      .661 No_date   28:06   64.86  n/a      .000
      Minor System  \      1.0 03:FC-03-MN        7.03      .358 No_date   27:41   64.90  n/a      .000
       {MjSysSto=.1131E+04, TotOvfVol=.2188E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-03-MJ         .34      .661 No_date   28:06   64.86  n/a      .000
                      +    1.0 02:FC-03-MN        7.03      .358 No_date   27:41   64.90  n/a      .000
                   SUM=    1.0 01:FC-03-S         7.37     1.019 No_date   28:06   64.90  n/a      .000
R0100:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FC-04          12.87     2.884 No_date   28:01   64.86 .732      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FC-04          12.87     2.884 No_date   28:01   64.86  n/a      .000
      Major System  /      1.0 02:FC-04-MJ         .44      .978 No_date   28:07   64.86  n/a      .000
      Minor System  \      1.0 03:FC-04-MN       12.43      .741 No_date   27:43   65.10  n/a      .000
       {MjSysSto=.1794E+04, TotOvfVol=.2828E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FC-04-MJ         .44      .978 No_date   28:07   64.86  n/a      .000
                      +    1.0 02:FC-04-MN       12.43      .741 No_date   27:43   65.10  n/a      .000
                   SUM=    1.0 01:FC-04-S        12.87     1.719 No_date   28:07   65.09  n/a      .000
#***************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#***************************************************************************
R0100:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-01           8.24     1.891 No_date   28:00   64.86 .732      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-01           8.24     1.891 No_date   28:00   64.86  n/a      .000
      Major System  /      1.0 02:JR-01-MJ         .20      .471 No_date   28:06   64.86  n/a      .000
      Minor System  \      1.0 03:JR-01-MN        8.04      .563 No_date   27:44   64.95  n/a      .000
       {MjSysSto=.1040E+04, TotOvfVol=.1267E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-01-MJ         .20      .471 No_date   28:06   64.86  n/a      .000
                      +    1.0 02:JR-01-MN        8.04      .563 No_date   27:44   64.95  n/a      .000
                   SUM=    1.0 01:JR-01-S         8.24     1.034 No_date   28:06   64.95  n/a      .000
R0100:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JR-02           1.59      .393 No_date   28:00   64.86 .732      .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:   F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0100:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:JR-02           1.59      .393 No_date   28:00   64.85  n/a      .000
      Major System  /      1.0 02:JR-02-MJ         .02      .087 No_date   28:03   64.85  n/a      .000
      Minor System  \      1.0 03:JR-02-MN        1.57      .153 No_date   27:44   65.24  n/a      .000
       {MjSysSto=.1530E+03, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR-02-MJ         .02      .087 No_date   28:03   64.85  n/a      .000
                      +    1.0 02:JR-02-MN        1.57      .153 No_date   27:44   65.24  n/a      .000
                   SUM=    1.0 01:JR-02-S         1.59      .240 No_date   28:03   65.23  n/a      .000
#***************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#***************************************************************************
R0100:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FRASER-DRN     13.65      .837 No_date   28:21   45.95 .519      .000
       [CN= 77.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0100:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:FRASER-D       21.61     4.106 No_date   28:01   69.71 .787      .000
       [XIMP=.58:TIMP=.58]
       [LOSS= 2 :CN= 80.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 26.32: SMAX=175.50: SK= .010]
R0100:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:FRASER-D       21.61     4.106 No_date   28:01   69.71  n/a      .000
      Major System  /      1.0 02:FRASER-J         .00      .000 No_date    0:00     .00  n/a      .000
      Minor System  \      1.0 03:FRASER-N       21.61     2.281 No_date   27:51   69.88  n/a      .000
       {MjSysSto=.1163E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:FRASER-J         .00      .000 No_date    0:00     .00  n/a      .000
                      +    1.0 02:FRASER-N       21.61     2.281 No_date   27:51   69.88  n/a      .000
                   SUM=    1.0 01:FRASER-S       21.61     2.281 No_date   27:51   69.88  n/a      .000
R0100:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:KB-Pond3      257.04    24.710 No_date   28:07   51.82  n/a      .000
                      +    1.0 02:S-1-B          55.36     3.260 No_date   28:23   45.95  n/a      .000
                      +    1.0 02:FRASER-DRN     13.65      .837 No_date   28:21   45.95  n/a      .000
                      +    1.0 02:FRASER-S       21.61     2.281 No_date   27:51   69.88  n/a      .000
                      +    1.0 02:N_KB        54279.40   144.071 No_date   36:49   39.18  n/a      .000
```

```
                     +      1.0 02:FC-01-S          8.03      .756 No_date   27:49   54.46  n/a      .000
                     +      1.0 02:FC-02-S         16.05     2.927 No_date   28:05   82.87  n/a      .000
                     +      1.0 02:FC-03-S          7.37     1.019 No_date   28:06   64.90  n/a      .000
                  SUM=      1.0 01:4241         54658.51   144.701 No_date   36:48   39.28  n/a      .000
R0100:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:4241         54658.51   144.701 No_date   36:48   39.28  n/a      .000
       fname :4241.0100
       remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0100:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:4241         54658.51   144.701 No_date   36:48   39.28  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:4241-out     54658.51   144.744 No_date   36:44   39.28  n/a      .000
       [L/S/n=  294./ .109/.035]
       {Vmax= 1.396:Dmax= 2.598}
R0100:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:4241-out     54658.51   144.744 No_date   36:44   39.28  n/a      .000
                     +      1.0 02:FC-04-S         12.87     1.719 No_date   28:07   65.09  n/a      .000
                     +      1.0 02:JR-01-S          8.24     1.034 No_date   28:06   64.95  n/a      .000
                     +      1.0 02:JR-02-S          1.59      .240 No_date   28:03   65.23  n/a      .000
                  SUM=      1.0 01:SN_KB        54681.20   144.787 No_date   36:44   39.29  n/a      .000
R0100:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_KB        54681.20   144.787 No_date   36:44   39.29  n/a      .000
       fname :SN_KB.0100
       remark:Total Flows before Station 3633
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0100:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_KB        54681.20   144.787 No_date   36:44   39.29  n/a      .000
      [RDT= 1.00] out<-     1.0 01:N_TO         54681.20   144.732 No_date   36:50   39.29  n/a      .000
       [L/S/n=  608./ .247/.035]
       {Vmax= 1.906:Dmax= 1.945}
#**************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#**************************************************************************
R0100:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Greenbank       36.60     7.069 No_date   28:01   71.80 .811      .000
       [XIMP=.64:TIMP=.68]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Greenbank       36.60     7.069 No_date   28:01   71.80  n/a      .000
                 out <=     1.0 01:GreenB_MN       36.60     5.350 No_date   28:07   71.80  n/a      .000
            overflow <=     1.0 03:GreenB_MJ         .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.9351E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_TO         54681.20   144.732 No_date   36:50   39.29  n/a      .000
                     +      1.0 02:GreenB_MJ         .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:GreenB_MN       36.60     5.350 No_date   28:07   71.80  n/a      .000
                  SUM=      1.0 01:GreenB       54717.80   144.894 No_date   36:50   39.32  n/a      .000
R0100:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:GreenB       54717.80   144.894 No_date   36:50   39.32  n/a      .000
       fname :GreenB.0100
       remark:Total Flows at Greenbank Drain
#**************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#**************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0100:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN2         2.10      .428 No_date   28:00   66.78 .754      .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN3          .12      .025 No_date   28:00   66.78 .754      .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MJ         30.23     5.210 No_date   28:02   68.65 .775      .000
       [XIMP=.52:TIMP=.64]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_ALL       112.91    17.286 No_date   28:04   66.60 .752      .000
       [XIMP=.52:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_P           3.06      .669 No_date   28:00   70.28 .794      .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0100:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MJ         30.23     5.210 No_date   28:02   68.65  n/a      .000
                 out <=     1.0 01:TODD_MJn        28.64     3.314 No_date   27:54   68.65  n/a      .000
            overflow <=     1.0 03:TODD_MJj         1.59     1.889 No_date   28:02   68.65  n/a      .000
      {MxStoUsed=.1512E-03  m3, TotOvfVol=.1094E+00  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0100:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN2         2.10      .428 No_date   28:00   66.78  n/a      .000
                 out <=     1.0 01:TODD_MN2n        1.99      .268 No_date   27:52   66.78  n/a      .000
            overflow <=     1.0 03:TODD_MN2j         .11      .155 No_date   28:00   66.78  n/a      .000
      {MxStoUsed=.1204E-03  m3, TotOvfVol=.7282E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN3          .12      .025 No_date   28:00   66.78  n/a      .000
                 out <=     1.0 01:TODD_MN3n         .11      .016 No_date   27:52   66.78  n/a      .000
            overflow <=     1.0 03:TODD_MN3j         .01      .009 No_date   28:00   66.78  n/a      .000
      {MxStoUsed=.9808E-04  m3, TotOvfVol=.3933E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A2              25.50     3.884 No_date   28:03   62.46 .705      .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A2              25.50     3.884 No_date   28:03   62.46  n/a      .000
      Major System   /      1.0 02:A2-MJ            1.43     2.026 No_date   28:04   62.46  n/a      .000
      Minor System   \      1.0 03:A2-MN           24.07     1.818 No_date   27:50   62.71  n/a      .000
       {MjSysSto=.9240E+03, TotOvfVol=.8908E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:TODD_MN2n        1.99      .268 No_date   27:52   66.78  n/a      .000
                     +      1.0 02:TODD_MN3n         .11      .016 No_date   27:52   66.78  n/a      .000
                     +      1.0 02:TODD_MJj         1.59     1.889 No_date   28:02   68.65  n/a      .000
                     +      1.0 02:TODD_P           3.06      .669 No_date   28:00   70.28  n/a      .000
                     +      1.0 02:TODD_ALL       112.91    17.286 No_date   28:04   66.60  n/a      .000
                     +      1.0 02:W_CLAR_MJn       1.69      .213 No_date   27:52   66.22  n/a      .000
                  SUM=      1.0 01:TODD           121.35    20.000 No_date   28:03   66.72  n/a      .000
R0100:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:TODD           121.35    20.000 No_date   28:03   66.72  n/a      .000
       fname :TODD.0100
       remark:Total Flows at Todd Drain
#**************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#**************************************************************************
R0100:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD           121.35    20.000 No_date   28:03   66.72  n/a      .000
                 out <=     1.0 01:MS_P3          121.35    15.844 No_date   28:09   66.71  n/a      .000
            overflow <=     1.0 03:P3-OVF            .00      .000 No_date    0:00     .00  n/a      .000
      {MxStoUsed=.2834E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:GreenB       54717.80   144.894 No_date   36:50   39.32  n/a      .000
                     +      1.0 02:MS_P3          121.35    15.844 No_date   28:09   66.71  n/a      .000
                     +      1.0 02:P3-OVF            .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:TODD_MN2j         .11      .155 No_date   28:00   66.78  n/a      .000
                     +      1.0 02:A2-MJ            1.43     2.026 No_date   28:04   62.46  n/a      .000
                  SUM=      1.0 01:SN_TO        54840.69   145.243 No_date   36:49   39.38  n/a      .000
R0100:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:SN_TO        54840.69   145.243 No_date   36:49   39.38  n/a      .000
       fname :SN_TO.0100
       remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 %(as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0100:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_TO        54840.69   145.243 No_date   36:49   39.38  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:N_TO         54840.69   145.165 No_date   36:58   39.38  n/a      .000
       [L/S/n=  280./ .050/.045]
       {Vmax=  .881:Dmax= 3.684}
R0100:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:N_TO         54840.69   145.165 No_date   36:58   39.38  n/a      .000
       fname :N_TO.0100
       remark:Total inflows at Station 2462
#**************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#**************************************************************************
R0100:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:corr1           15.87     3.185 No_date   28:01   70.28 .794      .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0100:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:corr1           15.87     3.185 No_date   28:01   70.28  n/a      .000
      Major System   /      1.0 02:corr1-MJ          .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \      1.0 03:corr1-MN        15.87     1.818 No_date   28:25   70.70  n/a      .000
       {MjSysSto=.7879E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:corr2           12.47      .388 No_date   29:10   45.95 .519      .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0100:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A1-Corrig       15.75     2.624 No_date   28:01   62.46 .705      .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A1-Corrig       15.75     2.624 No_date   28:01   62.46  n/a      .000
      Major System   /      1.0 02:A1-MJ             .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \      1.0 03:A1-MN           15.75     1.818 No_date   27:55   62.48  n/a      .000
       {MjSysSto=.3859E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:B1               2.77      .143 No_date   28:09   29.03 .328      .000
       [CN= 56.0: N= 3.00: Tp=  .23]
       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
       [InterEventTime=  12.00]
R0100:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A4               1.27      .266 No_date   28:00   70.58 .797      .000
       [XIMP=.65:TIMP=.65]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A4               1.27      .266 No_date   28:00   70.58  n/a      .000
      Major System   /      1.0 02:A4-MJ             .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \      1.0 03:A4-MN            1.27      .266 No_date   28:00   70.58  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A1-MJ             .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:A1-MN           15.75     1.818 No_date   27:55   62.48  n/a      .000
                     +      1.0 02:corr1-MJ          .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:corr1-MN        15.87     1.818 No_date   28:25   70.70  n/a      .000
                     +      1.0 02:corr2           12.47      .388 No_date   29:10   45.95  n/a      .000
                     +      1.0 02:B1               2.77      .143 No_date   28:09   29.03  n/a      .000
                     +      1.0 02:A4-MN            1.27      .266 No_date   28:00   70.58  n/a      .000
                  SUM=      1.0 01:MH101           48.13     4.085 No_date   28:02   59.20  n/a      .000
R0100:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH101           48.13     4.085 No_date   28:02   59.20  n/a      .000
       fname :MH101.0100
       remark:Total Flows at MH101
R0100:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH101           48.13     4.085 No_date   28:02   59.20  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:101-102         48.13     4.065 No_date   28:03   59.20  n/a      .000
       [L/S/n=  368./ .540/.013]
       {Vmax= 3.154:Dmax= 1.125}
       [Din= 1.05:Dused= 1.37}
R0100:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A2-MN           24.07     1.818 No_date   27:50   62.71  n/a      .000
                     +      1.0 02:101-102         48.13     4.065 No_date   28:03   59.20  n/a      .000
                  SUM=      1.0 01:MH102           72.20     5.883 No_date   28:03   60.37  n/a      .000
R0100:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH102           72.20     5.883 No_date   28:03   60.37  n/a      .000
       fname :MH102.0100
       remark:Total Flows at MH102
R0100:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A5               1.60      .346 No_date   28:01   73.40 .829      .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A4-MJ             .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:A5               1.60      .346 No_date   28:01   73.40  n/a      .000
                  SUM=      1.0 01:A5T              1.60      .346 No_date   28:01   73.40  n/a      .000
R0100:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A5T              1.60      .346 No_date   28:01   73.40  n/a      .000
      Major System   /      1.0 02:A5-MJ             .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \      1.0 03:A5-MN            1.60      .346 No_date   28:01   73.40  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH102           72.20     5.883 No_date   28:03   60.37  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:102-103         72.20     5.831 No_date   28:12   60.37  n/a      .000
       [L/S/n=  504./ .280/.013]
       {Vmax= 2.701:Dmax= 1.459}
       [Din= 1.50:Dused= 1.78}
R0100:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:102-103         72.20     5.831 No_date   28:12   60.37  n/a      .000
                     +      1.0 02:A5-MN            1.60      .346 No_date   28:01   73.40  n/a      .000
                  SUM=      1.0 01:MH103           73.80     6.079 No_date   28:04   60.65  n/a      .000
R0100:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH103           73.80     6.079 No_date   28:04   60.65  n/a      .000
       fname :MH103.0100
       remark:Total Flows at MH103
R0100:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:MH103           73.80     6.079 No_date   28:04   60.65  n/a      .000
      [RDT= 1.00] out<-     1.0 01:103-104         73.80     6.014 No_date   28:05   60.65  n/a      .000
       [L/S/n=  438./ .460/.013]
       {Vmax= 3.295:Dmax= 1.330}
       [Din= 1.65:Dused= 1.65}
R0100:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A6               1.56      .339 No_date   28:00   73.40 .829      .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A5-MJ             .00      .000 No_date    0:00     .00  n/a      .000
                     +      1.0 02:A6               1.56      .339 No_date   28:00   73.40  n/a      .000
                  SUM=      1.0 01:A6T              1.56      .339 No_date   28:00   73.40  n/a      .000
R0100:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A6T              1.56      .339 No_date   28:00   73.40  n/a      .000
      Major System   /      1.0 02:A6-MJ             .00      .000 No_date    0:00     .00  n/a      .000
      Minor System   \      1.0 03:A6-MN            1.56      .339 No_date   28:00   73.40  n/a      .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:A6-MN            1.56      .339 No_date   28:00   73.40  n/a      .000
                     +      1.0 02:103-104         73.80     6.014 No_date   28:05   60.65  n/a      .000
                     +      1.0 02:TODD_MJn        28.64     3.314 No_date   27:54   68.65  n/a      .000
                  SUM=      1.0 01:MH104          104.00     9.601 No_date   28:03   63.04  n/a      .000
R0100:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH104          104.00     9.601 No_date   28:03   63.04  n/a      .000
       fname :MH104.0100
       remark:Total Flows at MH104
R0100:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B2              12.31     2.012 No_date   28:02   62.88 .710      .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B2              12.31     2.012 No_date   28:02   62.88  n/a      .000
      Major System   /      1.0 02:B2-MJ             .36      .820 No_date   28:05   62.88  n/a      .000
      Minor System   \      1.0 03:B2-MN           11.95     1.029 No_date   27:51   62.91  n/a      .000
       {MjSysSto=.5080E+03, TotOvfVol=.2245E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE PIPE      ->     1.0 02:B2-MN           11.95     1.029 No_date   27:51   62.91  n/a      .000
 *    [RDT= 1.00] out<-     1.0 01:315-333         11.95     1.029 No_date   28:35   62.91  n/a      .000
       [L/S/n=  254./ .100/.013]
       {Vmax= 1.220:Dmax=  .838}
       [Din= 1.20:Dused= 1.20}
R0100:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:B3               5.59      .930 No_date   28:01   62.88 .710      .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0100:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:B3               5.59      .930 No_date   28:01   62.88  n/a      .000
      Major System   /      1.0 02:B3-MJ             .19      .402 No_date   28:04   62.88  n/a      .000
      Minor System   \      1.0 03:B3-MN            5.40      .459 No_date   27:50   63.05  n/a      .000
       {MjSysSto=.2270E+03, TotOvfVol=.1217E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
R0100:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:B3-MN            5.40      .459 No_date   27:50   63.05  n/a      .000
                     +      1.0 02:315-333         11.95     1.029 No_date   28:35   62.91  n/a      .000
                  SUM=      1.0 01:MH333           17.35     1.488 No_date   28:35   62.96  n/a      .000
R0100:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD               1.0 01:MH333           17.35     1.488 No_date   28:35   62.96  n/a      .000
       fname :MH333.0100
       remark:Total Flows at MH333
R0100:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
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     ROUTE PIPE       ->     1.0 02:MH333          17.35     1.488 No_date   28:35    62.96  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:333-335        17.35     1.489 No_date   28:27    62.96  n/a     .000
       [L/S/n=  251./ .100/.013]
       {Vmax= 1.302:Dmax= 1.057}
       [Din= 1.20:Dused= 1.29}
R0100:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:333-335        17.35     1.489 No_date   28:27    62.96  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:335-338        17.35     1.481 No_date   28:35    62.96  n/a     .000
       [L/S/n=  185./ .100/.013]
       {Vmax= 1.302:Dmax= 1.057}
       [Din= 1.20:Dused= 1.29}
R0100:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:335-338        17.35     1.481 No_date   28:35    62.96  n/a     .000
      [RDT= 1.00] out<-      1.0 01:338-340        17.35     1.480 No_date   28:35    62.96  n/a     .000
       [L/S/n=  233./ .100/.013]
       {Vmax= 1.330:Dmax=  .981}
       [Din= 1.35:Dused= 1.35}
R0100:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B4                 7.60     1.252 No_date   28:02    62.88 .710     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B4              7.60     1.252 No_date   28:02    62.88  n/a     .000
      Major System   /       1.0 02:B4-MJ            .17      .411 No_date   28:06    62.88  n/a     .000
      Minor System   \       1.0 03:B4-MN           7.43      .655 No_date   27:51    62.90  n/a     .000
       {MjSysSto=.3230E+03,  TotOvfVol=.1079E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:338-340        17.35     1.480 No_date   28:35    62.96  n/a     .000
                        +    1.0 02:B4-MN           7.43      .655 No_date   27:51    62.90  n/a     .000
                   SUM=      1.0 01:MH340          24.78     2.126 No_date   28:34    62.94  n/a     .000
R0100:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH340          24.78     2.126 No_date   28:34    62.94  n/a     .000
       fname :MH340.0100
       remark:Total Flows at MH340
R0100:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH340          24.78     2.126 No_date   28:34    62.94  n/a     .000
      [RDT= 1.00] out<-      1.0 01:340-104        24.78     2.116 No_date   28:21    62.94  n/a     .000
       [L/S/n=  240./ .150/.013]
       {Vmax= 1.726:Dmax=  .923}
       [Din= 1.65:Dused= 1.65}
R0100:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:340-104        24.78     2.116 No_date   28:21    62.94  n/a     .000
                        +    1.0 02:MH104         104.00     9.601 No_date   28:03    63.04  n/a     .000
                   SUM=      1.0 01:MH104T        128.78    11.560 No_date   28:04    63.02  n/a     .000
R0100:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH104T        128.78    11.560 No_date   28:04    63.02  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:104-105       128.78    11.359 No_date   28:10    63.02  n/a     .000
       [L/S/n=  380./ .100/.013]
       {Vmax= 2.115:Dmax= 2.014}
       {HGTH= 2.37:WDTH= 2.71}
R0100:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B5                 2.20      .437 No_date   28:00    66.83 .755     .000
       [XIMP=.57:TIMP=.57]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B5              2.20      .437 No_date   28:00    66.83  n/a     .000
      Major System   /       1.0 02:B5-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:B5-MN           2.20      .260 No_date   27:51    66.87  n/a     .000
       {MjSysSto=.9053E+02,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A8                  .96      .219 No_date   28:00    73.40 .829     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:A6-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                        +    1.0 02:A8               .96      .219 No_date   28:00    73.40  n/a     .000
                   SUM=      1.0 01:A8T              .96      .219 No_date   28:00    73.40  n/a     .000
R0100:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A8T              .96      .219 No_date   28:00    73.40  n/a     .000
      Major System   /       1.0 02:A8-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:A8-MN            .96      .219 No_date   28:00    73.40  n/a     .000
       {MjSysSto=.0000E+00,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:104-105       128.78    11.359 No_date   28:10    63.02  n/a     .000
                        +    1.0 02:B5-MN           2.20      .260 No_date   27:51    66.87  n/a     .000
                        +    1.0 02:A8-MN            .96      .219 No_date   28:00    73.40  n/a     .000
                        +    1.0 02:TODD_MN3j        .01      .009 No_date   28:00    66.78  n/a     .000
                   SUM=      1.0 01:MH105         131.94    11.688 No_date   28:10    63.16  n/a     .000
R0100:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH105         131.94    11.688 No_date   28:10    63.16  n/a     .000
       fname :MH105.0100
       remark:Total Flows at MH105
R0100:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *   DIVERT HYD       ->     1.0 01:A8-MJ            .00      .000 No_date    0:00      .00  n/a     .000
            diverted <=      1.0 02:A8-MJ-JR         .00      .000 No_date    0:00      .00  n/a     .000
            diverted <=      1.0 03:A8-MJ-B6         .00      .000 No_date    0:00      .00  n/a     .000
R0100:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     DIVERT HYD       ->     1.0 01:MH105         131.94    11.688 No_date   28:10    63.16  n/a     .000
            diverted <=      1.0 02:MH105-JR       36.57     8.679 No_date   28:10    63.16  n/a     .000
            diverted <=      1.0 03:MH105-B6       95.37     3.009 No_date   28:10    63.16  n/a     .000
R0100:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B7                 7.19     1.283 No_date   28:01    62.88 .710     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:B4-MJ            .17      .411 No_date   28:06    62.88  n/a     .000
                        +    1.0 02:B7              7.19     1.283 No_date   28:01    62.88  n/a     .000
                   SUM=      1.0 01:B7-B4MJ         7.36     1.300 No_date   28:06    62.88  n/a     .000
R0100:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B7-B4MJ         7.36     1.300 No_date   28:06    62.88  n/a     .000
      Major System   /       1.0 02:B7R-MJ           .36      .671 No_date   28:06    62.88  n/a     .000
      Minor System   \       1.0 03:B7R-MN          7.00      .629 No_date   28:31    62.97  n/a     .000
       {MjSysSto=.3110E+03,  TotOvfVol=.2280E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:B7R-MN          7.00      .629 No_date   28:31    62.97  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:360-106A        7.00      .629 No_date   28:31    62.97  n/a     .000
       [L/S/n=  167./ .100/.013]
       {Vmax= 1.089:Dmax=  .665}
       [Din= 1.05:Dused= 1.05}
R0100:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:B6                 3.29      .602 No_date   28:00    62.88 .710     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B6              3.29      .602 No_date   28:00    62.88  n/a     .000
      Major System   /       1.0 02:B6-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:B6-MN           3.29      .064 No_date   27:33    62.92  n/a     .000
       {MjSysSto=.7353E+03,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:EX-LAND           32.50     5.231 No_date   28:02    62.70 .708     .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
R0100:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:EX-LAND        32.50     5.231 No_date   28:02    62.70  n/a     .000
      Major System   /       1.0 02:EX-LAND-MJ      1.77     2.874 No_date   28:03    62.70  n/a     .000
      Minor System   \       1.0 03:EX-LAND-MN     30.73     2.275 No_date   27:48    62.82  n/a     .000
       {MjSysSto=.1365E+04,  TotOvfVol=.1111E+04,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:B7R-MJ           .36      .671 No_date   28:06    62.88  n/a     .000
                        +    1.0 02:EX-LAND-MJ      1.77     2.874 No_date   28:03    62.70  n/a     .000
                        +    1.0 02:B5-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                        +    1.0 02:B6-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                        +    1.0 02:B6-MN           3.29      .064 No_date   27:33    62.92  n/a     .000
                        +    1.0 02:A8-MJ-B6         .00      .000 No_date    0:00      .00  n/a     .000
                   SUM=      1.0 01:B6-B7ExMJ       5.42     3.483 No_date   28:03    62.85  n/a     .000
R0100:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:B6-B7ExMJ       5.42     3.483 No_date   28:03    62.85  n/a     .000
      Major System   /       1.0 02:B6R-MJ           .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:B6R-MN          5.42      .064 No_date   27:33    62.85  n/a     .000
       {MjSysSto=.1339E+04,  TotOvfVol=.0000E+00,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH105-B6       95.37     3.009 No_date   28:10    63.16  n/a     .000
      [RDT= 1.00] out<-      1.0 01:105-106A       95.37     3.009 No_date   28:04    63.16  n/a     .000
       [L/S/n=  208./ .100/.013]
       {Vmax= 1.597:Dmax= 1.249}
       [Din= 1.80:Dused= 1.80}
R0100:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:360-106A        7.00      .629 No_date   28:31    62.97  n/a     .000
                        +    1.0 02:105-106A       95.37     3.009 No_date   28:04    63.16  n/a     .000
                        +    1.0 02:B6R-MN          5.42      .064 No_date   27:33    62.85  n/a     .000
                        +    1.0 02:B6R-MJ           .00      .000 No_date    0:00      .00  n/a     .000
                   SUM=      1.0 01:MH106A        107.80     3.702 No_date   28:10    63.13  n/a     .000
R0100:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH106A        107.80     3.702 No_date   28:10    63.13  n/a     .000
       fname :MH106A.0100
       remark:Total Flows at MH106A
R0100:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH106A        107.80     3.702 No_date   28:10    63.13  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:106A-106      107.80     3.757 No_date   28:13    63.13  n/a     .000
       [L/S/n=  190./ .100/.013]
       {Vmax= 1.635:Dmax= 1.487}
       [Din= 1.80:Dused= 1.81}
R0100:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A9                 2.44      .539 No_date   28:00    73.40 .829     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A9              2.44      .539 No_date   28:00    73.40  n/a     .000
      Major System   /       1.0 02:A9-MJ            .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:A9-MN           2.44      .539 No_date   28:00    73.40  n/a     .000
R0100:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:106A-106      107.80     3.757 No_date   28:13    63.13  n/a     .000
                        +    1.0 02:A9-MN           2.44      .539 No_date   28:00    73.40  n/a     .000
                   SUM=      1.0 01:MH106         110.24     4.227 No_date   28:00    63.36  n/a     .000
R0100:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH106         110.24     4.227 No_date   28:00    63.36  n/a     .000
       fname :MH106.0100
       remark:Total Flows at MH106
R0100:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH106         110.24     4.227 No_date   28:00    63.36  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:106-107       110.24     4.179 No_date   28:02    63.36  n/a     .000
       [L/S/n=  123./ .100/.013]
       {Vmax= 1.690:Dmax= 1.563}
       [Din= 1.80:Dused= 1.90}
R0100:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A10                4.14      .693 No_date   28:01    59.73 .674     .000
       [XIMP=.35:TIMP=.47]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A10             4.14      .693 No_date   28:01    59.73  n/a     .000
      Major System   /       1.0 02:A10-MJ           .09      .218 No_date   28:05    59.73  n/a     .000
      Minor System   \       1.0 03:A10-MN          4.05      .310 No_date   27:48    60.02  n/a     .000
       {MjSysSto=.2280E+03,  TotOvfVol=.5334E+02,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A11               10.61     1.941 No_date   28:01    67.38 .761     .000
       [XIMP=.53:TIMP=.62]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00404------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A11            10.61     1.941 No_date   28:01    67.38  n/a     .000
      Major System   /       1.0 02:A11-MJ           .16      .564 No_date   28:06    67.38  n/a     .000
      Minor System   \       1.0 03:A11-MN         10.45      .993 No_date   28:34    67.69  n/a     .000
       {MjSysSto=.5560E+03,  TotOvfVol=.1090E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00405------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:106-107       110.24     4.179 No_date   28:02    63.36  n/a     .000
                        +    1.0 02:A10-MN          4.05      .310 No_date   27:48    60.02  n/a     .000
                        +    1.0 02:A11-MN         10.45      .993 No_date   28:34    67.69  n/a     .000
                   SUM=      1.0 01:MH107         124.74     5.482 No_date   28:02    63.62  n/a     .000
R0100:C00406------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH107         124.74     5.482 No_date   28:02    63.62  n/a     .000
       fname :MH107.0100
       remark:Total Flows at MH107
R0100:C00407------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH107         124.74     5.482 No_date   28:02    63.62  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:107-119       124.74     5.468 No_date   28:04    63.62  n/a     .000
       [L/S/n=  114./ .120/.013]
       {Vmax= 1.932:Dmax= 1.665}
       [Din= 1.80:Dused= 2.03}
R0100:C00408------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:107-119       124.74     5.468 No_date   28:04    63.62  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:119-108       124.74     5.480 No_date   28:05    63.62  n/a     .000
       [L/S/n=   66./ .120/.013]
       {Vmax= 1.930:Dmax= 1.664}
       [Din= 1.80:Dused= 2.03}
R0100:C00409------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A12               12.29     2.213 No_date   28:01    62.88 .710     .000
       [XIMP=.41:TIMP=.54]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00410------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A12            12.29     2.213 No_date   28:01    62.88  n/a     .000
      Major System   /       1.0 02:A12-MJ           .23      .599 No_date   28:05    62.88  n/a     .000
      Minor System   \       1.0 03:A12-MN         12.06     1.029 No_date   27:48    63.11  n/a     .000
       {MjSysSto=.6720E+03,  TotOvfVol=.1477E+03,  N-Ovf=    1,  TotDurOvf=    0.hrs}
R0100:C00411------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A13                2.59      .540 No_date   28:01    73.40 .829     .000
       [XIMP=.71:TIMP=.71]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00412------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD         1.0 01:A13             2.59      .540 No_date   28:01    73.40  n/a     .000
      Major System   /       1.0 02:A13-MJ           .00      .000 No_date    0:00      .00  n/a     .000
      Minor System   \       1.0 03:A13-MN          2.59      .540 No_date   28:01    73.40  n/a     .000
R0100:C00413------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:Pond-Block         2.94      .490 No_date   28:00    59.56 .673     .000
       [XIMP=.41:TIMP=.41]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81:  SMAX=225.43:  SK= .010]
R0100:C00414------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:119-108       124.74     5.480 No_date   28:05    63.62  n/a     .000
                        +    1.0 02:A13-MN          2.59      .540 No_date   28:01    73.40  n/a     .000
                        +    1.0 02:A12-MN         12.06     1.029 No_date   27:48    63.11  n/a     .000
                   SUM=      1.0 01:MH108         139.38     6.996 No_date   28:03    63.75  n/a     .000
R0100:C00415------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:MH108         139.38     6.996 No_date   28:03    63.75  n/a     .000
       fname :MH108.0100
       remark:Total Flows at MH108
R0100:C00416------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:MH108         139.38     6.996 No_date   28:03    63.75  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:108-116       139.38     6.987 No_date   28:04    63.75  n/a     .000
       [L/S/n=   77./ .130/.013]
       {Vmax= 2.116:Dmax= 1.798}
       [Din= 1.80:Dused= 2.19}
R0100:C00417------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE PIPE       ->     1.0 02:108-116       139.38     6.987 No_date   28:04    63.75  n/a     .000
 *    [RDT= 1.00] out<-      1.0 01:116-corrig    139.38     6.949 No_date   28:06    63.75  n/a     .000
       [L/S/n=   80./ .130/.013]
       {Vmax= 2.115:Dmax= 1.797}
       [Din= 1.80:Dused= 2.19}
R0100:C00418------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:116-corrig    139.38     6.949 No_date   28:06    63.75  n/a     .000
                        +    1.0 02:Pond-Block      2.94      .490 No_date   28:00    59.56  n/a     .000
                   SUM=      1.0 01:Corrigan      142.32     7.300 No_date   28:04    63.67  n/a     .000
R0100:C00419------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:Corrigan      142.32     7.300 No_date   28:04    63.67  n/a     .000
       fname :Corrigan.0100
       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
R0100:C00420------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->      1.0 02:Corrigan      142.32     7.300 No_date   28:04    63.67  n/a     .000
                 out <=      1.0 01:Co-P          142.32     6.658 No_date   28:15    63.67  n/a     .000
            overflow <=      1.0 03:Co-P-OVF         .00      .000 No_date    0:00      .00  n/a     .000
     {MxStoUsed=.1044E+01  m3,  TotOvfVol=.0000E+00  m3,  N-Ovf=    0,  TotDurOvf=    0.hrs}
R0100:C00421------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                 1.0 02:Co-P-OVF         .00      .000 No_date    0:00      .00  n/a     .000
                        +    1.0 02:Co-P          142.32     6.658 No_date   28:15    63.67  n/a     .000
                        +    1.0 02:N_TO        54840.69   145.165 No_date   36:58    39.38  n/a     .000
                        +    1.0 02:MH105-JR       36.57     8.679 No_date   28:10    63.16  n/a     .000
                        +    1.0 02:A8-MJ-JR         .00      .000 No_date    0:00      .00  n/a     .000
                        +    1.0 02:A9-MJ            .00      .000 No_date    0:00      .00  n/a     .000
                        +    1.0 02:A10-MJ           .09      .218 No_date   28:05    59.73  n/a     .000
                        +    1.0 02:A11-MJ           .16      .564 No_date   28:06    67.38  n/a     .000
                        +    1.0 02:A12-MJ           .23      .599 No_date   28:05    62.88  n/a     .000
                        +    1.0 02:A13-MJ           .00      .000 No_date    0:00      .00  n/a     .000
                   SUM=      1.0 01:corrig      55020.07   145.784 No_date   36:56    39.46  n/a     .000
R0100:C00422------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD                1.0 01:corrig      55020.07   145.784 No_date   36:56    39.46  n/a     .000
       fname :corrig.0100
       remark:Total Flows at Corrigan Pond
#*************************************************************************
#    Corrigan Pond 1
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
#*************************************************************************
#
# Hydrograph from Corrigan Drain routed to Jockvale Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
#
R0100:C00423------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->     1.0 02:corrig      55020.07   145.784 No_date   36:56    39.46  n/a     .000
      [RDT= 1.00] out<-      1.0 01:N_MI        55020.07   145.768 No_date   36:59    39.46  n/a     .000
       [L/S/n=  580./ .445/.045]
       {Vmax= 2.171:Dmax= 2.126}
#*************************************************************************
#    Catchment MILLS
#    - To SWM Facility north of the Jock
#    - Primarily residental development
#*************************************************************************
R0100:C00424------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:MILLS            175.99    20.390 No_date   28:06    56.87 .642     .000
       [XIMP=.38:TIMP=.38]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67:  SMAX=244.49:  SK= .010]
#*************************************************************************
#    Chapman Mills SWM Pond
#    - Rating curve obtained from CCL hydraulic modeling
#*************************************************************************
R0100:C00425------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
```

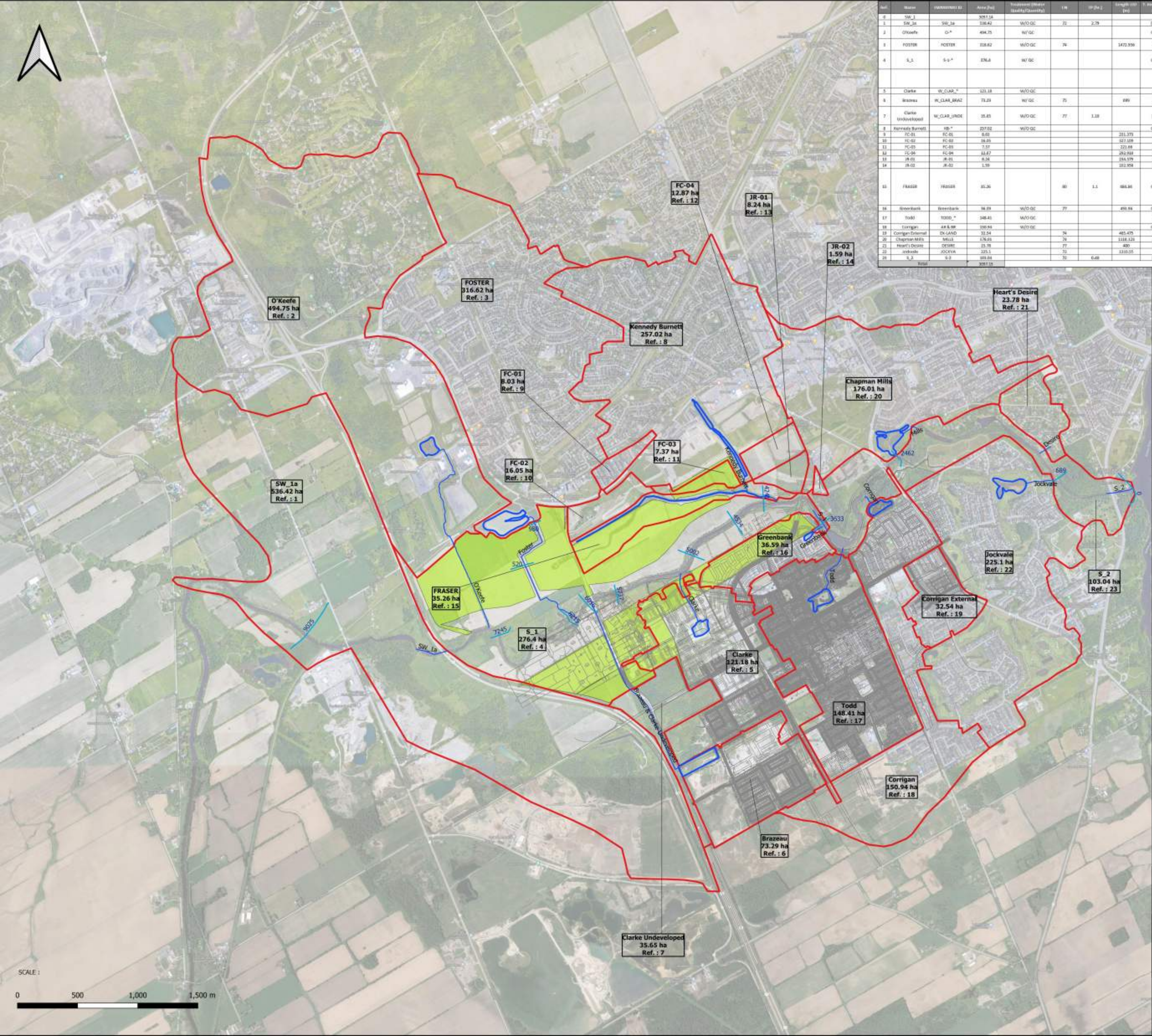
```
     ROUTE RESERVOIR ->    1.0 02:MILLS          175.99   20.390 No_date   28:06   56.87  n/a     .000
                 out <=    1.0 01:MILL_P         146.22    4.050 No_date   28:08   56.87  n/a     .000
            overflow <=    1.0 03:MIL-OV          29.77   16.228 No_date   28:08   56.87  n/a     .000
     {MxStoUsed=.2310E+01  m3, TotOvfVol=.1693E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
R0100:C00426-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_M          55020.07  145.768 No_date   36:59   39.46  n/a     .000
                   +       1.0 02:MIL-OV          29.77   16.228 No_date   28:08   56.87  n/a     .000
                   +       1.0 02:MILL_P         146.22    4.050 No_date   28:08   56.87  n/a     .000
                SUM=       1.0 01:SN_M         55196.05  146.399 No_date   36:58   39.51  n/a     .000
R0100:C00427-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_M         55196.05  146.399 No_date   36:58   39.51  n/a     .000
       fname :SN_M.0100
       remark:Total Flows at Jockvale Road
#
# Hydrograph from Jockvale Road routed to Heart's Desire
# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
#
R0100:C00428-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_M         55196.05  146.399 No_date   36:58   39.51  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N_DE         55196.05  146.071 No_date   37:13   39.51  n/a     .000
       [L/S/n= 1962./ .223/.045]
       {Vmax= 1.642:Dmax= 2.661}
#****************************************************************************
#    Catchment DESIRE
#    - To Jock River (north of the Jock)
#    - Rural-estate subdivision (Heart's Desire Community)
#****************************************************************************
R0100:C00429-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:DESIRE          23.78    3.004 No_date   28:03   53.11 .600     .000
       [XIMP=.25:TIMP=.25]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
#****************************************************************************
#    Catchment JOCKVA
#    - To Jockvale SWM Facility
#    - Residential development & golf course
#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
#****************************************************************************
R0100:C00430-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:JOCKVA         225.13   28.623 No_date   28:07   62.70 .708     .000
       [XIMP=.50:TIMP=.50]
       [LOSS= 2 :CN= 74.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 36.67: SMAX=244.49: SK= .010]
R0100:C00431-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:EX-LAND-MN      30.73    2.275 No_date   27:48   62.82  n/a     .000
                   +       1.0 02:JOCKVA         225.13   28.623 No_date   28:07   62.70  n/a     .000
                   +       1.0 02:B2-MI             .36     .820 No_date   28:05   62.88  n/a     .000
                   +       1.0 02:B3-MI             .19     .402 No_date   28:04   62.88  n/a     .000
                SUM=       1.0 01:JOCKVA-TO      256.41   31.850 No_date   28:06   62.71  n/a     .000
R0100:C00432-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:JOCKVA-TO      256.41   31.850 No_date   28:06   62.71  n/a     .000
       fname :JOCKVA-TO.0100
       remark:Total Flows at KB first pond
#****************************************************************************
#    Jockvale SWM Facility
#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
#****************************************************************************
R0100:C00433-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO      256.41   31.850 No_date   28:06   62.71  n/a     .000
                 out <=    1.0 01:JOCK_P         256.41   12.850 No_date   28:35   62.71  n/a     .000
            overflow <=    1.0 03:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
     {MxStoUsed=.6430E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0100:C00434-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N_DE         55196.05  146.071 No_date   37:13   39.51  n/a     .000
                   +       1.0 02:DESIRE          23.78    3.004 No_date   28:03   53.11  n/a     .000
                   +       1.0 02:JO-OVF            .00     .000 No_date    0:00     .00  n/a     .000
                   +       1.0 02:JOCK_P         256.41   12.850 No_date   28:35   62.71  n/a     .000
                SUM=       1.0 01:SN_DE        55476.25  147.027 No_date   37:12   39.63  n/a     .000
R0100:C00435-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_DE        55476.25  147.027 No_date   37:12   39.63  n/a     .000
       fname :SN_DE.0100
       remark:Total Flows at Heart's Desire
#
# Hydrograph from Heart's Desire routed to Rideau River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
#
R0100:C00436-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:SN_DE        55476.25  147.027 No_date   37:12   39.63  n/a     .000
      [RDT= 1.00] out<-    1.0 01:NI           55476.25  147.014 No_date   37:15   39.63  n/a     .000
       [L/S/n=  563./ .967/.045]
       {Vmax= 2.219:Dmax= 1.328}
#****************************************************************************
#    Catchment S-2
#    - To Jock River (north and south)
#    - Undeveloped floodplain and river
#****************************************************************************
R0100:C00437-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:S-2            102.94    5.685 No_date   28:20   40.95 .462     .000
       [CN= 72.0: N= 3.00: Tp=  .40]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0100:C00438-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:NI           55476.25  147.014 No_date   37:15   39.63  n/a     .000
                   +       1.0 02:S-2            102.94    5.685 No_date   28:20   40.95  n/a     .000
                SUM=       1.0 01:SN_NI        55579.19  147.276 No_date   37:15   39.63  n/a     .000
R0100:C00439-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm---RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:SN_NI        55579.19  147.276 No_date   37:15   39.63  n/a     .000
       fname :SN_NI.0100
       remark:Total Flows at Rideau River
###########################################################################
R0100:C00002------------------------------------------------------------------------------------
     FINISH
-----------------------------------------------------------------------------------------------
***********************************************************************************************
      WARNINGS / ERRORS / NOTES
      -------------------------
R0002:C00319  ROUTE RESERVOIR
*** WARNING: Inflow peak was not reduced! Check OUTFLOW STORAGE table or reduce DT.
R0002:C00341  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00347  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00380  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0002:C00400  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00407  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00408  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00416  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0002:C00417  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00319  ROUTE RESERVOIR
*** WARNING: Inflow peak was not reduced! Check OUTFLOW STORAGE table or reduce DT.
R0005:C00341  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00347  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00363  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00380  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0005:C00395  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00400  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00407  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00408  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00416  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0005:C00417  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00341  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00347  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00363  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00380  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0010:C00395  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00400  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00407  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00408  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00416  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0010:C00417  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00341  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00347  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00363  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00380  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0025:C00395  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00400  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00407  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00408  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00416  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0025:C00417  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00341  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00347  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00363  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00380  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0050:C00395  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00400  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00407  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00408  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00416  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0050:C00417  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00341  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00347  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00363  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00364  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00372  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00380  DIVERT HYD      ->
*** NOTE: Inflow hyd. is dry and cannot be diverted.
R0100:C00395  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00400  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00407  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00408  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00416  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
R0100:C00417  ROUTE PIPE      ->
*** WARNING: New pipe size used for routing.
    Simulation ended on 2021-03-04     at 12:01:23
===============================================================================================
```

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment F

Updated Subcatchment Schematics & Tables

Ref.	Name	[illegible] ID	Area (ha)	Treatment (Water Quality/Quantity)	CN	TP (hr)	Length (m)	T. Imperv. (TP (hr))	XIMP	Type	Major System to	Minor System to	Figure	Table	Schematic
0	SW_1		3057.14												
1	SW_1a	SW_1a	536.42	W/O QC	72	2.79		[2.79]		NASHYD	Jock River at Station 7245				
2	O'Keefe	O-*	494.75	W/ QC				0.575		STANDHYD	Jock River at Station 8235		Figure F1 - O'Keefe Sub-catchments	Table F1 - O'Keefe Sub-catchments	Schematic F1 - O'Keefe Sub-catchments
3	FOSTER	FOSTER	316.62	W/O QC	74		1472.956	0.35	0.35	STANDHYD	Jock River at Station 8056		Figure F2 - Foster Sub-catchment	Table F2 - Foster Sub-catchment	
4	S_1	S-1-*	276.4	W/ QC				0.848		STANDHYD	Jock River at Station 5802		Figure 4A - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments	
													Figure 4B - S-1 & Fraser Sub-catchments	Table 4B - S-1 & Fraser Sub-catchments	
5	Clarke	W_CLAR_*	121.18	W/O QC				0.61		STANDHYD	Jock River at Station 5062		Figure F3 - Clarke & Brazeau Sub-catchments	Table F3-1 - Clarke Sub-catchments	
6	Brazeau	W_CLAR_BRAZ	73.29	W/ QC	75		699	0.65	0.6	STANDHYD	Jock River at Station 6056				
7	Clarke Undeveloped	W_CLAR_UNDE	35.65	W/O QC	77	1.18		[1.1]		NASHYD	Jock River at Station 5062			Figure F3-2 - Brazeau Sub-catchment	
8	Kennedy Burnett	KB-*	257.02	W/O QC				0.357		STANDHYD	Jock River at Station 3533		Figure F4 - Kennedy Burnett Sub-catchments	Table F4 - Kennedy Burnett Sub-catchments	
9	FC-01	FC-01	8.03				221.373	0.47	0.47	STANDHYD	Jock River at Station 3533				
10	FC-02	FC-02	16.05				327.109	0.93	0.93	STANDHYD	Jock River at Station 3533				
11	FC-03	FC-03	7.37				221.68	0.64	0.84	STANDHYD	Jock River at Station 3533				
12	FC-04	FC-04	12.87				292.918	0.64	0.84	STANDHYD	Jock River at Station 3533				
13	JR-01	JR-01	8.24				234.379	0.64	0.84	STANDHYD	Jock River at Station 3533				
14	JR-02	JR-02	1.59				102.958	0.64	0.84	STANDHYD	Jock River at Station 3533				
15	FRASER	FRASER	35.26		80	1.1	884.84	0.505	0.565	STANDHYD	Jock River at Station 3533		Figure 6A - S-1 & Fraser Sub-catchments	Table 6A - S-1 & Fraser Sub-catchments	
													Figure 6B - S-1 & Fraser Sub-catchments	Table 6B - S-1 & Fraser Sub-catchments	
16	Greenbank	Greenbank	36.59	W/O QC	77		491.96	0.402	0.409	STANDHYD	Jock River at Station 2462				
17	Todd	TODD_*	148.41	W/O QC				0.55		STANDHYD	Jock River at Station 2462		Figure F5 - Todd Sub-catchments	Table F5 - Todd Sub-catchments	
18	Corrigan	AR & RR	150.94	W/O QC				0.541		STANDHYD	Jock River at Station 2462		Figure F6 - Corrigan Sub-catchments	Table F6 - Corrigan Sub-catchments	
19	Corrigan External	EX-LAND	32.54		74		485.475	0.5	0.5	STANDHYD	Jock River at Station 2462				
20	Chapman Mills	MILLS	176.01		74		1118.121	0.18	0.18	STANDHYD	Jock River at Station 689				
21	Heart's Desire	DESIRE	23.78		77		400	0.25	0.25	STANDHYD	Jock River at Station 0				
22	Jockvale	JOCKVA	225.1		72		1310.55	0.5	0.5	STANDHYD	Jock River at Station 0				
23	S_2	S-2	103.04		72	0.48		[0.4]		NASHYD	Rideau River				
Total			3057.15												



Legend

Sub-catchments

SW_1

Channel Cross Section

SWMF Drains

SWMF ponds

Approved Developments

Additional Future Developments

Google Hybrid

File name:

Figure 3 - Overall Jock River Lower Reach one Sub-catchments.pdf

XS 4534 — Cross Section at station 4534

SW_1a → Area ID
536.42 ha → Area (ha)
Ref. 1 → Reference Number

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TITLE :

Figure 3 - Overall Jock River Lower Reach one Sub-catchments

Table 3 - Overall Jock River Lower Reach one Sub-catchments

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name	SWMHYMO ID	Area (ha)	Treatment (Water Quality/Quantity)	CN	TP (hr.)	Length-LGI (m)	T. Imperv. [TP (hr)]	XIMP	Type	Major System To	Minor System To	Figure	Table	Schematic
0	SW_1		3097.14												
1	SW_1a	SW_1a	536.42	W/O QC	72	2.79		[2.79]		NASHYD	Jock River at Station 7245				
2	O'Keefe	O-*	494.75	W/ QC				0.575		STANDHYD	Jock River at Station 6215		Figure F1 - O'Keefe Sub-catchments	Table F1 - O'Keefe Sub-catchments	Schematic F1 - O'Keefe Sub-catchments
3	FOSTER	FOSTER	316.62	W/O QC	74		1472.956	0.55	0.55	STANDHYD	Jock River at Station 6016		Figure F2 - Foster Sub-catchment	Table F2 - Foster Sub-catchment	
4	S_1	S-1-*	276.4	W/ QC				0.646		STANDHYD	Jock River at Station 5002		Figure 4A - S-1 & Fraser Sub-catchments Figure 4B - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments Table 4B - S-1 & Fraser Sub-catchments	
5	Clarke	W_CLAR_*	121.18	W/O QC				0.61		STANDHYD	Jock River at Station 5002		Figure F3 - Clarke & Brazeau Sub-catchments	Table F3-1 - Clarke Sub-catchments	
6	Brazeau	W_CLAR_BRAZ	73.29	W/ QC	75		699	0.65	0.6	STANDHYD	Jock River at Station 6016				
7	Clarke Undeveloped	W_CLAR_UNDE	35.65	W/O QC	77	1.10		[1.1]		NASHYD	Jock River at Station 5002			Figure F3-2 - Brazeau Sub-catchment	
8	Kennedy Burnett	KB-*	257.02	W/O QC				0.557		STANDHYD	Jock River at Station 3633		Figure F4 - Kennedy Burnett Sub-catchments	Table F4 - Kennedy Burnett Sub-catchments	
9	FC-01	FC-01	8.03				231.373	0.47	0.47	STANDHYD	Jock River at Station 3633				
10	FC-02	FC-02	16.05				327.109	0.93	0.93	STANDHYD	Jock River at Station 3633				
11	FC-03	FC-03	7.37				221.66	0.64	0.64	STANDHYD	Jock River at Station 3633				
12	FC-04	FC-04	12.87				292.916	0.64	0.64	STANDHYD	Jock River at Station 3633				
13	JR-01	JR-01	8.24				234.379	0.64	0.64	STANDHYD	Jock River at Station 3633				
14	JR-02	JR-02	1.59				102.956	0.64	0.64	STANDHYD	Jock River at Station 3633				
15	FRASER	FRASER	35.26		80	1.1	484.84	0.585	0.585	STANDHYD	Jock River at Station 3633		Figure 4A - S-1 & Fraser Sub-catchments Figure 4B - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments Table 4B - S-1 & Fraser Sub-catchments	
16	Greenbank	Greenbank	36.59	W/O QC	77		493.96	0.682	0.639	STANDHYD	Jock River at Station 2462				
17	Todd	TODD_*	148.41	W/O QC				0.55		STANDHYD	Jock River at Station 2462		Figure F5 -Todd Sub-catchments	Table F5 -Todd Sub-catchments	
18	Corrigan	A# & B#	150.94	W/O QC				0.541		STANDHYD	Jock River at Station 2462		Figure F6 -Corrigan Sub-catchments	Table F6 -Corrigan Sub-catchments	
19	Corrigan External	EX-LAND	32.54		74		465.475	0.5	0.5	STANDHYD	Jock River at Station 2462				
20	Chapman Mills	MILLS	176.01		74		1118.123	0.38	0.38	STANDHYD	Jock River at Station 689				
21	Heart's Desire	DESIRE	23.78		77		400	0.25	0.25	STANDHYD	Jock River at Station 0				
22	Jockvale	JOCKVA	225.1		72		1310.55	0.5	0.5	STANDHYD	Jock River at Station 0				
23	S_2	S-2	103.04		72	0.40		[0.4]		NASHYD	Rideau River				
Total			3097.15												

Legend

Channel Cross Sections

S-1 Sub-catchments and Fraser Sub-catchments

S-1 Sub-catchments

FRASER-DRN

FRASER-D

Google Hybrid

File name:

Figure 4A - S-1 & Fraser Clarke Sub-catchments.pdf

XS 3633 Cross Section at station 3633

S-1-A → Area ID
90.84 ha → Area (ha)
Ref. 1 → Reference Number

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PROJECT :

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TITLE :

Figure 4A - S-1 & Fraser Clarke Sub-catchments

Table 4A - S-1 & Fraser Clarke Sub-catchments

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID (S-1 is developed and Fraser is developed with DUALHYD)	Description	Area (ha)	Major System To	Minor System To	TP (hr) [TIMP]	Slope (%) SLPP (Pervious)	Slope (%) SLPI (Impervious)	LGI (m)	CN	DUALHYD parameters: Max Flow Rate(cms)- 5-year inlet capture rate (24-hour SCS)	DUALHYD parameters: Major System storage (cu-m)
1	S-1-A	will remain undeveloped	75.88	SN_FO (Total Flows at Foster Drain)		0.619				77		
2	S-1-B	will remain undeveloped	55.36	4241 (Total Flows before Station 4241		0.451				77		
3	S-1-D1	will be Developed	21.67	5002 (Total Flows before Station 5002		[0.65]	2	0.75	380.088	75		
4	S-1-D2	will be Developed	18.67	SN_OK (Total Flows at Okeefe Drain)		[0.65]	2	0.75	352.798	75		
5	S-1-D3	will be Developed	6.79	SN_OK (Total Flows at Okeefe Drain)		[0.65]	2	0.75	212.760	75		
6	S-1-D4	will be Developed	3.28	SN_CE (Total Flows before Station 5737		[0.65]	2	0.75	147.874	75		
7	S-1-D5	will be Developed	12.84	SN_CE (Total Flows before Station 5737		[0.65]	2	0.75	292.575	75		
8	S-1-D6	will be Developed	1.75	5002 (Total Flows before Station 5002		[0.65]	2	0.75	108.012	75		
9	S-1-D7	will be Developed	2.03	5002 (Total Flows before Station 5002		[0.65]	2	0.75	116.333	75		
10	S-1-D8	will be Developed	5.27	SN_FO (Total Flows at Foster Drain)		[0.65]	2	0.75	187.439			
11	S-1-FO-D1	was part of Foster (Developed)	5.11	520 (Total Flows at Sation 520 on Foster Drain)		[0.65]	0.5	0.5	184.572	74		
12	S-1-FO-D2	was part of Foster (Developed)	4.94	980 (Total Flows at Station 980 on Foster Drain)		[0.55]	0.5	0.5	181.475	74		
13	S-1-FO-F-D	was part of Foster (will be Developed in the Future)	14.96	SN_FO (Total Flows at Foster Drain)		[0.65]	0.5	0.5	315.806	74		
14	S-1-Okeefe	was part of O'Keefe	44.93	SN_416 (Total Flows after Highway 416 and before XS Station 7245)		[0.65]	2	0.75	547.296	75		
15	FRASER-D	Fraser Clarke Drain (will remain undeveloped)	21.61	4241 (Total Flows at Ken-Burnett Outlet and before XS Station 4241)		[0.585]	1	1	379.561	80	2.281	9999999 (an imaginary number so all water is kept Inside)
16	FRASER-DRN	Fraser Clarke Developed Area	13.65	4241 (Total Flows at Ken-Burnett Outlet and before XS Station 4241)		0.4258				77		
S-1 Total Area (ha)			197.6									
FRASER Total Area (ha)			35.26									

ROUTE CHANNEL (Station 5002): NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
SN_CE = ["N_CE"(1) +"S-1-D4" +"S-1-D5" +"MS_P2"(2) +"P2-OVF"(2)]	"5737" (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5737)	270	0.02593	-1060.52 -268.6 -259.43 -179.48 -67.9 -59.21 -33.19 -26.08 -24.04 -13.14 0 14.68 23.92 25.78 31.91 91.95 772.15 961.49 1044.69 1130.8	94 91.5 91.5 91.5 91.5 91.5 91 90.5 90 86.77 85 86.74 90 90.5 91 91.5 92 92.5 93 95
5002= ["5737" +"S-1-D1" +"S-1-D6" +"S-1-D7"]	N_WC (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5002)	736	0.09511	-601.81 -37.5 -19.61 0 14.87 37.5 38.54 42.23 157.05	91.5 90 87.04 85.7 86.93 90 90.5 91 91.5
N_WC	N_KB (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 4534 (Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain))	1020	0.0498	-1082.01 -1028.17 -992.3 -279.34 -23.63 -13.45 -0.07 10.54 23.63 24.86 26.72 45.07 128.17 270.7 728.3	94 92.5 93.5 90 90 87.13 86.24 87.15 90 90.5 91 91.5 91.5 92.5 95
4241= ["KB-Pond3"(3) +"S-1-B" +"FRASER-DRN" +"FRASER-S" +"N_KB" +"FC-01-S"(4) +"FC-02-S"(5) +"FC-03-S"(6)]	4241-out (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 4241)	294	0.1088	-909.72 -907.09 -904.65 -902.26 -44.51 -25.1 -20.98 -20.61 -20.12 -6.13 17.51 31.37 45.26 50.41 63.06 134.5 190.63 251.98 321.32 403.84	95 94.5 94 93.5 91.5 91.5 91 90.5 90 87.26 86.56 87.2 90 90.5 91 91.5 92 92.5 93.5 95
SN_KB= ["4241-out" +"FC-04-S"(7) +"JR-01-S"(8) +"JR-02-S"(9)]	N_TO (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 3633 (Hydrograph from Node Ken-Burnett to Node Todd))	608	0.24671	-29.24 -27.41 -25.64 -23.74 -22 -20 -19 -15 -10 -5 0 5 10 15 16 23.74 24.68 25.57 26.5	91 90.5 90 89.5 89.26 88.51 88.32 88.1 88.11 88.17 88.27 88.19 88.06 88.48 88.7 89.5 90 90.5 91

(1) N_CE is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 6016 (Hydrograph from Node Foster routed to Node at Cedarview Road)

(2) "MS_P2" and "P2-OVF" are the outflow and the overflow from ROUTE RESERVOIR of the Clarke sub-catchment

(3) "KB-Pond3" =Total Flows at KB third pond

(4 & 5 & 6 & 7) "FC-01-S" & "FC-02-S" & "FC-03-S" & "FC-04-S" = Existing / Proposed Subcatchments To Fraser Clarke Drain as per NOVATECH Report June, 2020

(8 & 9) "JR-01-S" & "JR-02-S" = Proposed Subcatchments To Jock River as per NOVATECH Report June, 2020

Legend

— Channel Cross Sections

S-1 Sub-catchments and Fraser Sub-catchments

- S-1 Sub-catchments
- FRASER-DRN
- FRASER-D

Google Hybrid

File name:

Figure 4B - S-1 & Fraser Clarke Sub-catchments.pdf

XS 3633 — Cross Section at station 3633

S-1-A → Area ID
90.84 ha → Area (ha)
Ref. 1 → Reference Number

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david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure 4B - S-1 & Fraser Clarke Sub-catchments

Table 4B - S-1 & Fraser Clarke Sub-catchments

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID (S-1 is developed with DUALHYD & ROUTE RESERVOIR and Fraser is developed with DUALHYD)	Description	Area (ha)	Major System To	Minor System To	TP (hr) [TIMP]	Slope (%) SLPP (Pervious)	Slope (%) SLPI (Impervious)	LGI (m)	CN	DUALHYD parameters: Max Flow Rate(cms)- 5-year inlet capture rate (24-hour SCS)	DUALHYD parameters: Major System storage (cu-m)	ROUTE RESERVOIR: NHYDin	ROUTE RESERVOIR: NHYDout	ROUTE RESERVOIR: NHYDovf (OVERFLOW)	ROUTE RESERVOIR: Outflow (cms)	ROUTE RESERVOIR: Storage (ha-m)
1	S-1-A	will remain undeveloped	75.88	SN_FO (Total Flows at Foster Drain)		0.619				77							
2	S-1-B	will remain undeveloped	55.36	4241 (Total Flows before Station 4241		0.451				77							
3	S-1-D1	will be Developed	21.67	5002 (Total Flows before Station 5002		[0.65]	2	0.75	380.088	75	2.409	9999999	S-1-D1S	S-1-D1R	S-1-D1Rovf	0.3033	1.0125
4	S-1-D2	will be Developed	18.67	SN_OK (Total Flows at Okeefe Drain)		[0.65]	2	0.75	352.798	75	2.097	9999999	S-1-D2S	S-1-D2R	S-1-D2Rovf	0.2485	0.8297
5	S-1-D3	will be Developed	6.79	SN_OK (Total Flows at Okeefe Drain)		[0.65]	2	0.75	212.760	75	0.831	9999999	S-1-D3S	S-1-D3R	S-1-D3Rovf	0.079	0.2639
6	S-1-D4	will be Developed	3.28	SN_CE (Total Flows before Station 5737		[0.65]	2	0.75	147.874	75	0.421	9999999	S-1-D4S	S-1-D4R	S-1-D4Rovf	0.0392	0.1308
7	S-1-D5	will be Developed	12.84	SN_CE (Total Flows before Station 5737		[0.65]	2	0.75	292.575	75	1.5	9999999	S-1-D5S	S-1-D5R	S-1-D5Rovf	0.1611	0.5377
8	S-1-D6	will be Developed	1.75	5002 (Total Flows before Station 5002		[0.65]	2	0.75	108.012	75	0.232	9999999	S-1-D6S	S-1-D6R	S-1-D6Rovf	0.0222	0.0742
9	S-1-D7	will be Developed	2.03	5002 (Total Flows before Station 5002		[0.65]	2	0.75	116.333	75	0.265	9999999	S-1-D7S	S-1-D7R	S-1-D7Rovf	0.2767	0.9238
10	S-1-D8	will be Developed	5.27	SN_FO (Total Flows at Foster Drain)		[0.65]	2	0.75	187.439		0.672	9999999	S-1-D8S	S-1-D8R	S-1-D8Rovf	0.0630	0.2102
11	S-1-FO-D1	was part of Foster (Developed)	5.11	520 (Total Flows at Sation 520 on Foster Drain)		[0.65]	0.5	0.5	184.572	74	0.605	9999999	S-1-FO-D1S	S-1-FO-D1R	S-1FOD1ovf	0.0693	0.2313
12	S-1-FO-D2	was part of Foster (Developed)	4.94	980 (Total Flows at Station 980 on Foster Drain)		[0.55]	0.5	0.5	181.475	74	0.508	9999999	S-1-FO-D2S	S-1-FO-D2R	S-1FOD2ovf	0.067	0.2236
13	S-1-FO-F-D	was part of Foster (will be Developed in the Future)	14.96	SN_FO (Total Flows at Foster Drain)		[0.65]	0.5	0.5	315.806	74	1.615	9999999	S-1FO-F-DS	S-1FO-F-DR	S-1FO-F-DR	0.2215	0.7396
14	S-1-Okeefe	was part of O'Keefe	44.93	SN_416 (Total Flows after Highway 416 and before XS Station 7245)		[0.65]	2	0.75	547.296	75	4.591	9999999	S-1-OkS	S-1-OkSR	S-1-OkSovf	0.639	2.1333
15	FRASER-D	Fraser Clarke Drain (will remain undeveloped)	21.61	4241 (Total Flows at Ken-Burnett Outlet and before XS Station 4241)		[0.585]	1	1	379.561	80	2.281	9999999 (an imaginary number so all water is kept Inside)					
16	FRASER-DRN	Fraser Clarke Developed Area	13.65	4241 (Total Flows at Ken-Burnett Outlet and before XS Station 4241)		0.4258				77							
S-1 Total Area (ha)			273.48														
FRASER Total Area (ha)			35.26														

ROUTE CHANNEL (Station 5002): NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
SN_CE = ["N_CE"[1] +"S-1-D4R" +"S-1-D5R" +"S-1-D4Rovf" +"S-1-D5Rovf" +"MS_P2"[2]+" P2-OVF"[2]]	"5737" (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5737)	270	0.02593	-1060.52 -268.6 -259.43 -179.48 -67.9 -59.21 -33.19 -26.08 -24.04 -13.14 0 14.68 23.92 25.78 31.91 91.95 772.15 961.49 1044.69 1130.8	94 91.5 91.5 91.5 91.5 91.5 91 90.5 90 86.77 85 86.74 90 90.5 91 91.5 92 92.5 93 95
5002= ["5737" +"S-1-D1R" +"S-1-D6R" +"S-1-D7R" +"S-1-D1Rovf" +"S-1-D6Rovf" +"S-1-D7Rovf"]	N_WC (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5002)	736	0.09511	-601.81 -37.5 -19.61 0 14.87 37.5 38.54 42.23 157.05	91.5 90 87.04 85.7 86.93 90 90.5 91 91.5
N_WC	N_KB (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 4534 (Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain))	1020	0.0498	-1082.01 -1028.17 -992.3 -279.34 -23.63 -13.45 -0.07 10.54 23.63 24.86 26.72 45.07 128.17 270.7 728.3	94 92.5 93.5 90 90 87.13 86.24 87.15 90 90.5 91 91.5 91.5 92.5 95
4241= ["KB-Pond3"[3] +"S-1-B" +"FRASER-DRN" +"FRASER-S" +"N_KB" +"FC-01-S"[4] +"FC-02-S"[5] +"FC-03-S"[6]]	4241-out (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 4241)	294	0.1088	-909.72 -907.09 -904.65 -902.26 -44.51 -25.1 -20.98 -20.61 -20.12 -6.13 17.51 31.37 45.26 50.41 63.06 134.5 190.63 251.98 321.32 403.84	95 94.5 94 93.5 91.5 91.5 91 90.5 90 87.26 86.56 87.2 90 90.5 91 91.5 92 92.5 93.5 95
SN_KB= ["4241-out" +"FC-04-S"[7] +"JR-01-S"[8] +"JR-02-S"[9]]	N_TO (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 3633 (Hydrograph from Node Ken-Burnett to Node Todd))	608	0.24671	-29.24 -27.41 -25.64 -23.74 -22 -20 -19 -15 -10 -5 0 5 10 15 16 23.74 24.68 25.57 26.5	91 90.5 90 89.5 89.26 88.51 88.32 88.1 88.11 88.17 88.27 88.19 88.06 88.48 88.7 89.5 90 90.5 91

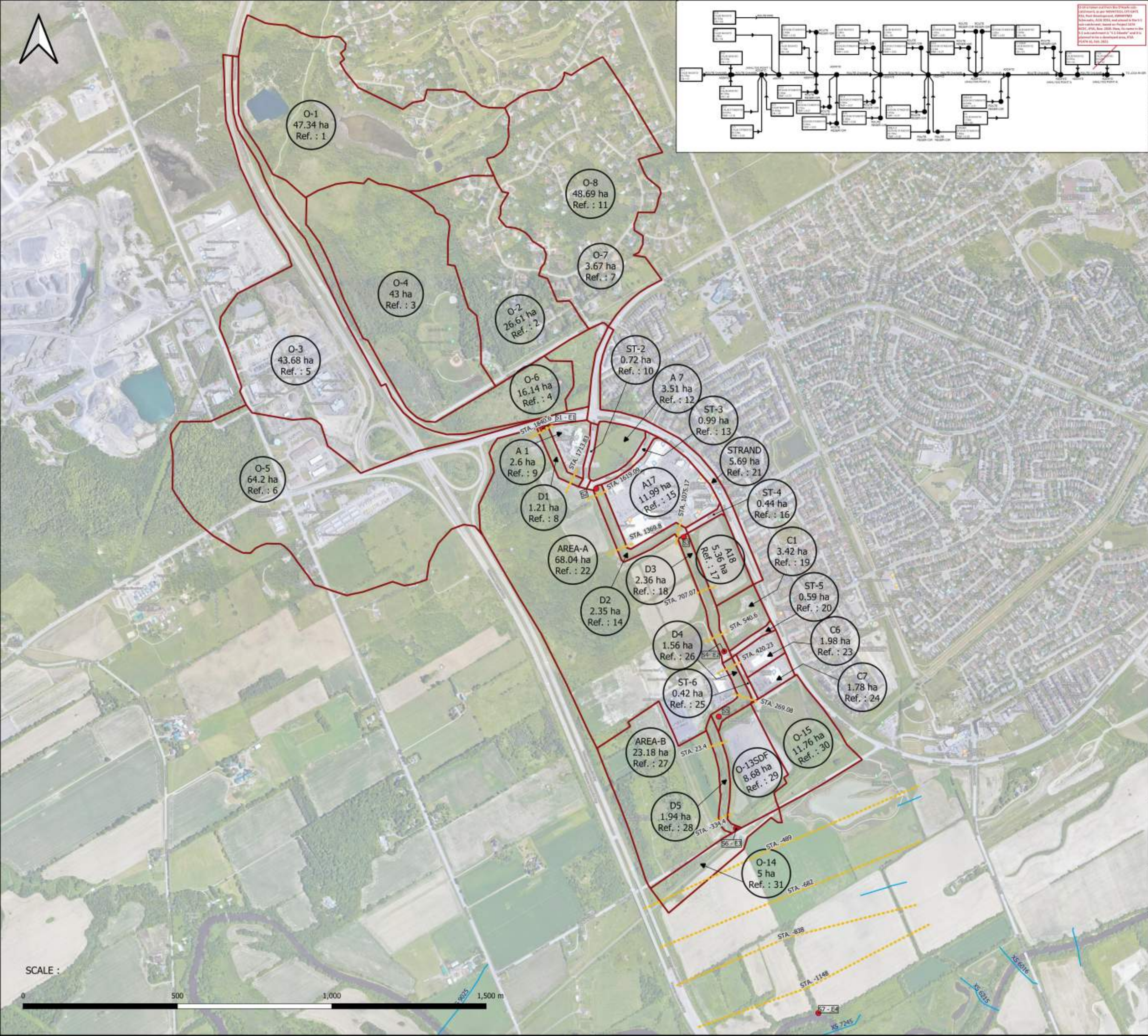
(1) N_CE is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 6016 (Hydrograph from Node Foster routed to Node at Cedarview Road)

(2) "MS_P2" and "P2-OVF" are the outflow and the overflow from ROUTE RESERVOIR of the Clarke sub-catchment

(3) "KB-Pond3" =Total Flows at KB third pond

(4 & 5 & 6 & 7) "FC-01-S" & "FC-02-S" & "FC-03-S" & "FC-04-S" = Existing / Proposed Subcatchments To Fraser Clarke Drain as per NOVATECH Report June, 2020

(8 & 9) "JR-01-S" & "JR-02-S" = Proposed Subcatchments To Jock River as per NOVATECH Report June, 2020



File name:

Figure F1 - O'Keefe Sub-catchments.pdf

Legend

20210129-O'Keefe Sub-catchment Boundaries

O'Keefe Sub-catchment Boundaries

Google Hybrid

XS 7245 Cross Section at station 7245

S1 - E1 HYDROLOGIC MODELING (SWMHYMO) ANALYSIS POINT - ENVIRONMENTAL MANAGEMENET (EMP) ANALYSIS POINT

O-1 / 47.34 ha / Ref. : 1 — Area ID; Area (ha); Reference Number

STA. 1840.6 CROSS SECTION AND STATION

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PROJECT :

BCDC - Quantity Control Study

TITLE : Figure F1 - O'Keefe Sub-catchments

Table F1 - O'Keefe Sub-catchments

Schematic F1 - O'Keefe Sub-catchments

PROJECT NO.	1474
DRAWN:	MM
DATE:	Mar. 2021

Ref.	ID O'Keefe	Area (ha) (from Novatech Report AUG2014)	Area (ha) (from GIS- JFSA P1474-16-QC,JAN2021)	Major System To / Minor System To	T. Imperv. [TP (hr)]	XIMP	CN	Slope (%)
1	O-1	63.72	47.34	OKF-N (NORTH OF	[0.9]		61	
2	O-2	28.61	26.61	OKF-N (NORTH OF	[1.1]		57	
3	O-4	46.94	43	OKF-N (NORTH OF	[0.9]		49	
4	O-6	16.46	16.14	PT1[1](WEST OF THE	[0.7]		43	
5	O-3	39.67	43.68	PT1[1](WEST OF THE	0.3	0.15	50	0.32
6	O-5	60.63	64.2	PT1[1](WEST OF THE	0.26	0.13	61	1.38
7	O-7	5.28	3.67	FF(TOTAL FLOW	[0.6]		54	
8	D1	1.17	1.21	ST2-IN [2]	[0.28]		84	
9	A1	2.5	2.6	ST2-IN [2]	0.85	0.68	Horton	0.5
10	ST-2	0.59	0.72	ST2-IN [2]	0.57	0.46	Horton	0.5
11	O-8	60.55	48.69	ST2-IN [2]	[1]		69	
12	A7	3.51	3.51	PT2ST3(TOTAL FLOW	0.85	0.68	Horton	0.5
13	ST-3	0.71	0.99	PT2ST3(TOTAL FLOW	0.57	0.46	Horton	0.5
14	D2	2.28	2.35	PT3ST4 (TOTAL FLOW	[0.99]		84	
15	A17	12.04	11.99	PT3ST4 (TOTAL FLOW	0.85	0.68	Horton	0.5
16	ST-4	0.35	0.44	PT3ST4 (TOTAL FLOW	0.57	0.46	Horton	0.5
17	A18	5.3	5.36	PT3ST4 (TOTAL FLOW	0.85	0.68	Horton	0.5
18	D3	2.51	2.36	ST5-E [5]	[0.73]		86	
19	C1	3.41	3.42	ST5-E [5]	0.85	0.68	Horton	0.5
20	ST-5	0.45	0.59	ST5-E [5]	0.57	0.46	Horton	0.5
21	STRAND	7.59	5.69	SSAOUT [4]	0.85	0.64	Horton	0.5
22	AREA-A	68.04	68.04	PT4ST5[3](TOTAL	0.8	0.64	Horton	0.5
23	C6	1.87	1.98	PT5ST6(TOTAL FLOW	0.85	0.68	Horton	0.5
24	C7	1.62	1.78	PT5ST6(TOTAL FLOW	0.85	0.68	Horton	0.5
25	ST-6	0.41	0.42	PT5ST6(TOTAL FLOW	0.57	0.46	Horton	0.5
26	D4	1.73	1.56	D4-EX	[0.60]		88	
27	AREA-B	24.04	23.08	D4-EX	0.77	0.62	Horton	1.4
28	D5	1.9	1.93	PT6MC [6] (McKenna	[0.69]		86	
29	O-13SDF	9.74	8.8	PT6MC [6] (McKenna	[0.43]		81	
30	O-15	10.67	11.76	M-C	[0.30]		82	
31	O-14	30.02	5	OKEEFE	[0.133]		82	
Total		514.31	458.91					

ROUTE RESERVOIR

NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)
A1	A1-STR	A1-OVF	0.035	0.038
			0.072	0.051
			0.1	0.059
			0.125	0.07
			0.16	0.074
			0.185	0.081
ST-2	ST2STR	ST2OVF	0.052	0.001
			0.053	0.008
A7	A7-STR	A7-OVF	0.049	0.054
			0.102	0.072
			0.14	0.082
			0.175	0.099
			0.225	0.105
			0.26	0.114
ST-3	ST3STR	ST3OVF	0.063	0.001
			0.064	0.0094
A17	A17STR	A17OVF	0.169	0.185
			0.349	0.248
			0.482	0.283
			0.602	0.338
			0.771	0.359
			0.891	0.391
ST-4	ST4STR	ST4OVF	0.031	0.001
			0.032	0.005
A18	A18STR	A18OVF	0.074	0.082
			0.154	0.109
			0.212	0.125
			0.265	0.149
			0.339	0.158
			0.392	0.172
C1	C1-STR	C1-OVF	0.048	0.052
			0.099	0.07
			0.136	0.08
			0.17	0.096
			0.218	0.102
			0.252	0.111
ST-5	ST5STR	ST5OVF	0.04	0.001
			0.041	0.0062
STRAND	S-POND	S-OVF	0.033	0.188
			0.057	0.253
			0.104	0.287
			0.16	0.336
			0.34	0.346
			0.471	0.36
			0.824	0.39
Area-A	SWMF-A	SWMAOV	0.103	1.077
			0.128	1.749
			0.382	2.282
			0.703	2.582
			1.256	2.978
			1.567	3.202
			1.955	3.493
			2.1	3.6
C6	C6-STR	C6-OVF	0.026	0.029
			0.054	0.038
			0.075	0.044
			0.093	0.052
			0.12	0.056
			0.138	0.061
C7	C7-STR	C7-OVF	0.023	0.025
			0.047	0.033
			0.065	0.038
			0.081	0.045
			0.104	0.048
			0.12	0.053
ST-6	ST6STR	ST6OVF	0.036	0.001
			0.037	0.0058
Area-B	SWMF-B	SWMBOVF	0.025	0.09
			0.175	0.51
			0.35	0.71
			0.495	0.82
			0.648	0.98
			0.965	1.045
			1.072	1.14
O-13SDF	SDF	OVFSDF	0.15	0.6
			0.2	1.5

ROUTE CHANNEL [ROUTE PIPE]

NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
O-1	O-1R	960	0.63	0	2
				4	0
				6	0
				10	2
OKF-N = ["O-1R" + "O-2"+"O-4"]	OKF-NR	210	0.81	14.62	1.56
				18.41	1.44
				22.43	0
				25.07	0.7
				29.1	1.79
				33.73	2.71
				45.54	3.58
FF=["PT1[1]"+"O-7"]	DRAIN1	302	1	3.45	0.6
				13.45	0.5
				14.45	0
				15.55	0
				16.55	0.5
				26.55	0.6
				30	1.7
[O-8]	[O8PIPE]	[335.1]	[0.1]	[Width= 1800 mm]	[Hight= 1200 mm]
PT2ST3= ["ST2-IN[2]" +"A7-STR" +"A7-OVF" +"ST3STR" +"ST3OVF"]	DRAIN2	592	0.23	2.6	0.95
				12.6	0.75
				14.1	0
				15.9	0
				17.4	0.75
				27.4	0.95
				30	1.7
PT3ST4= ["DRAIN2"+"D2"+ "A17STR"+ "A17OVF"+ "ST4STR"+ "ST4OVF"+ "A18STR"+ "A18OVF"]	DRAIN3	525	0.23	2.5	1
				12.5	0.8
				14.1	0
				15.9	0
				17.5	0.8
				27.5	1
				30	1.7
PT5ST6= ["PT4ST5[3]"+ "C6-STR"+ "C6-OVF"+ "C7-STR"+ "C7-OVF"+ "ST6STR"+ "ST6OVF"]	DRAIN4	324	0.1	2	1.2
				12	1
				14	0
				16	0
				18	1
				28	1.2
				30	2
D4-EX= ["DRAIN4"+ "D4" + "SWMF-B"+ "SWMBOVF"]	DRAIN5	413	0.16	0	1.41
				6.13	0.97
				12.29	0.89
				15.71	0
				17.97	0.39
				23.04	0.35
				32.83	0.96
				32.84	2.5
M-C= ["PT6MC[6]"+ "O-15"]	O-14Ch	845.3	0.1	0	1.53
				5.56	1.47
				9.21	1.45
				12.45	1.53
				13.7	1.5
				15	0.69
				15.34	0
				16.51	0.05
				17.3	0.17
				18.04	0.74
				19.29	1.32
				22.73	1.47
				31.84	1.41
				31.85	2.5
SN_OK (Total Flows at Okeefe Drain)	**N_FO** is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 6215 (Hydrograph from Node Okeefe routed to Node at Foster Drain)	1183	0.0761	-794.18	91
				-775.41	91.5
				-702.63	91.5
				-546.19	91.5
				-529.54	91.5
				-323.44	91
				-320.71	91
				-183.59	91
				-182.54	90.5
				-181.36	90
				-177.37	90
				-87.7	90
				-33.89	90
				-18.52	86.88
				0	85.2
				16.2	86.83
				31.59	90
				33.03	90.5
				34.41	91

(1) PT1=["OKF-NR"+"O-3"+"O-5"+"O-6"]

(2) ST2-IN=["DRAIN1"+"D1"+"A1-STR"+"A1-OVF"+"ST2STR"+"ST2OVF"+"O8PIPE"]

(3) PT4ST5=["SSAOUT[4]"+"SWMF-A"+"SWMAOV"]

(4) SSAOUT=["ST5-E[5]"+"S-POND"+"S-OVF"]

(5) ST5-E["DRAIN3"+"D3"+"C1-STR"+"C1-OVF"+"ST5STR"+"ST5OVF"]

(6) PT6MC=["DRAIN5"+"D5"+"SDF"]

Ref.	Name ID	Area (ha)	Major System To	Minor System To	T. Impera.	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%)		ROUTE RESERVOIR					ROUTE CHANNEL (Station 6016)					
									SLPP (Pervious)	SLPI (Impervious)	NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	FOSTER	325.44	FOSTER-OUT = ["P_FOS"+"FO-OVF"]		0.55	0.55	74	1472.958211	0.5	0.5	FOSTER	P_FOS	FO-OVF	10.34	10	SN_FO (Total Flows at Foster Drain)	N_CE	159	0.0818	-645.23 -391.2 -91 -85.52 -15.46 -9.79 -3.22 3.22 10.96 16.44 26.55 29.03 35.76 36.67 108.08 109.82 112.04 114.62 116.76	91.5 91.5 91.5 91.5 89.4 89.31 86.24 85.07 85.79 86.49 89.45 90.27 90.67 91 91 90.5 90.5 91 91.5

File name:

Figure F2 - Foster Sub-catchment.pdf

Legend

- Channel Cross Sections
- SWMF Drains
  - Foster Drain
- SWMF ponds
  - Foster Pond
- Foster Sub-catchment
  - FOSTER
- Google Hybrid

XS 6016 Cross Section at station 6016

FOSTER → Area ID
325.44 ha → Area (ha)
Ref. 1 → Reference Number

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PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure F2 - Foster Sub-catchment

Table F2 - Foster Sub-catchment

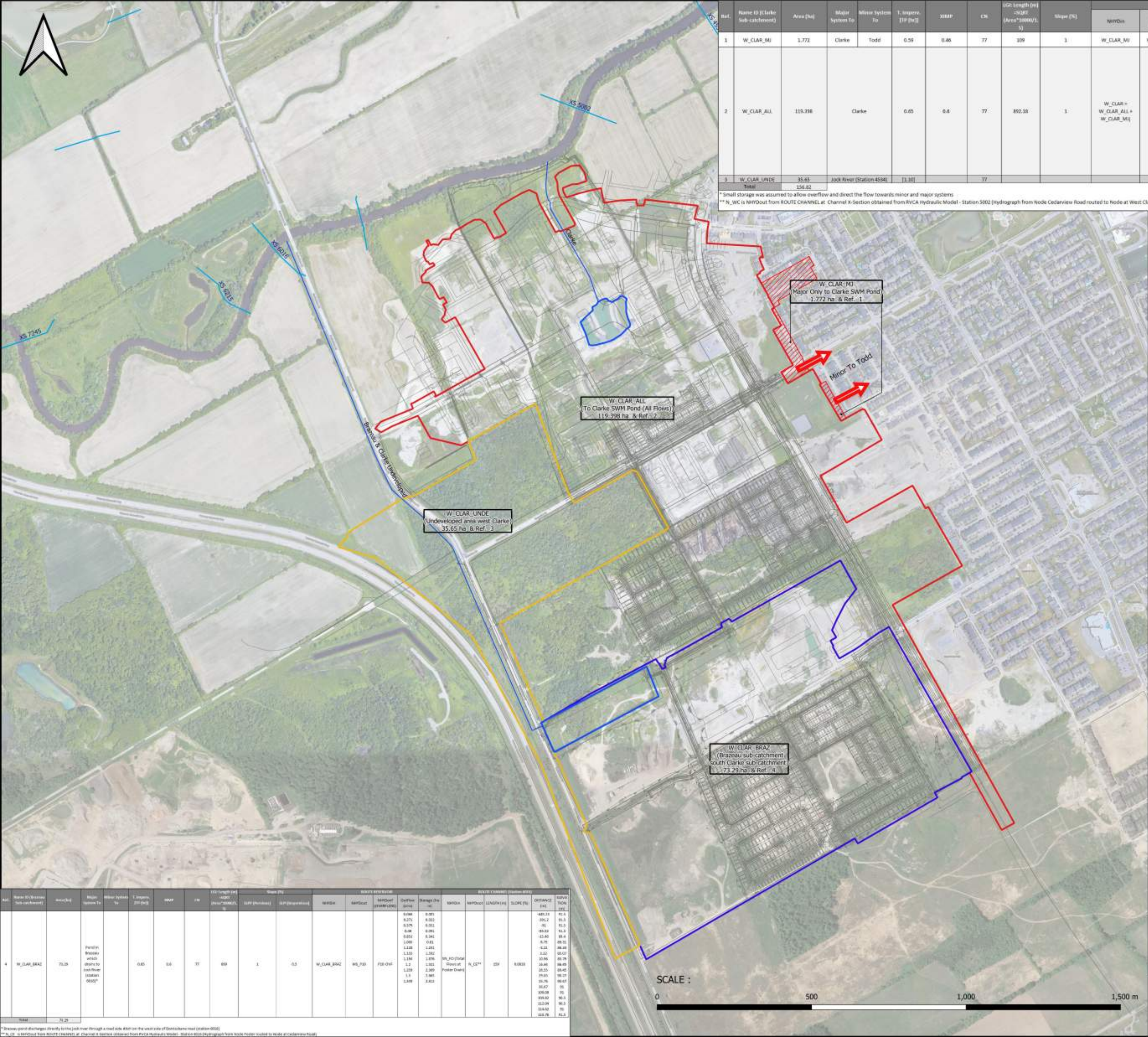
PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID	Area (ha)	Major System To	Minor System To	T. Imperv.	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%)		ROUTE RESERVOIR					ROUTE CHANNEL (Station 6016)					
									SLPP (Pervious)	SLPI (Impervious)	NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	FOSTER	325.44	FOSTER-OUT = ["P_FOS"+"FO-OVF"]		0.55	0.55	74	1472.956211	0.5	0.5	FOSTER	P_FOS	FO-OVF	10.34	10	SN_FO (Total Flows at Foster Drain)	N_CE	159	0.0818	-645.23	91.5
																				-391.2	91.5
																				-91	91.5
																				-85.52	91.5
																				-15.46	89.4
																				-9.79	89.31
																				-3.22	86.24
																				3.22	85.07
																				10.96	85.79
																				16.44	86.49
																				26.55	89.45
																				29.03	90.27
																				35.76	90.67
																				36.67	91
																				108.08	91
																				109.82	90.5
																				112.04	90.5
																				114.62	91
																				116.76	91.5

Ref.	Name ID (Clarke Sub-catchment)	Area (ha)	Major System To	Minor System To	T. Imperv. [TP (hr)]	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%)	ROUTE RESERVOIR: NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha m)	ROUTE CHANNEL (Station 4534): NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	W_CLAR_MJ	1.772	Clarke	Todd	0.59	0.46	77	109	1	W_CLAR_MJ	W_CLAR_MJn	W_CLAR_MJj	0.213	0.0001*						
2	W_CLAR_ALL	119.398	Clarke		0.65	0.6	77	892.18	1	W_CLAR = W_CLAR_ALL + W_CLAR_MJ)	MS_P2	P2-OVF	0.128 0.138 0.148 0.227 0.354 0.505 0.666 0.831 0.995 1.069 1.51 4.904 13.048 23.745 36.474 45.938 61.652	0.161 0.409 0.68 0.951 1.223 1.52 1.821 2.123 2.434 2.583 2.647 2.861 3.188 3.523 3.871 4.127 4.539	N_WC**	N_KB	1020	0.0498	-1082.01 -1028.17 -992.3 -279.34 -23.63 -13.45 -0.07 10.54 23.63 24.86 26.72 45.07 128.17 270.7 728.3	94 92.5 93.5 90 90 87.13 86.24 87.15 90 90.5 91 91.5 91.5 92.5 95
3	W_CLAR_UNDE	35.65	Jock River (Station 4534)		[1.10]		77													
Total		156.82																		

* Small storage was assumed to allow overflow and direct the flow towards minor and major systems

** N_WC is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5002 (Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain)



Ref.	Name ID (Brazeau Sub-catchment)	Area (ha)	Major System To	Minor System To	T. Imperv. [TP (hr)]	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%): [illegible] (Pervious)	[illegible] (Impervious)	ROUTE RESERVOIR: NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha m)	ROUTE CHANNEL (Station [illegible]): NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
4	W_CLAR_BRAZ	73.29	Pond in Brazeau which drains to Jock River (station 6010)*		0.65	0.6	77	699	1	0.5	W_CLAR_BRAZ	MS_P10	P10-OVF	0.066 0.271 0.379 0.48 0.851 1.000 1.128 1.155 1.184 1.2 1.229 1.3 1.349	[illegible]	MS_FO (Total Flows at Foster Drain)	N_CE**	259	0.0818	[illegible]	[illegible]
Total		73.29																			

* Brazeau pond discharges directly to the Jock river through a road side ditch on the west side of [illegible] road (station 6010)

** N_CE is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station [illegible] (Hydrograph from Node Foster routed to Node at Cedarview Road)

Legend

- Channel Cross Sections
- SWMF Drains
  - Brazeau & Clarke Undeveloped
  - Clarke
- SWMF ponds
  - West Clarke
  - Brazeau
- Clarke Sub-catchment & Brazeau Sub-catchment
  - W_CLAR_MJ
  - W_CLAR_MJ (Major Only to Clarke SWM Pond)
  - W_CLAR_ALL
  - W_CLAR_BRAZ
  - W_CLAR_UNDE
- Clarke-Brazeau-CAD
- Google Hybrid

File name:

Figure F3 - Clarke & Brazeau Sub-catchments.pdf

XS 4534 Cross Section at station 4534

Minor System

W_CLAR_MJ → Area ID
(Major Only to Clarke SWM Pond) → Reference Number
1.772 ha & Ref. 1 → Area (ha)

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PROJECT :

BCDC - Quantity Control Study

TITLE : Figure F3 - Clarke & Brazeau Sub-catchments

Table F3-1 - Clarke Sub-catchments

Figure F3-2 - Brazeau Sub-catchment

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID (Clarke Sub-catchment)	Area (ha)	Major System To	Minor System To	T. Imperv. [TP (hr)]	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%)	ROUTE RESERVOIR					ROUTE CHANNEL (Station 4534)					
										NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	W_CLAR_MJ	1.772	Clarke	Todd	0.59	0.46	77	109	1	W_CLAR_MJ	W_CLAR_MJn	W_CLAR_MJj	0.213	0.0001*						
2	W_CLAR_ALL	119.398	Clarke		0.65	0.6	77	892.18	1	W_CLAR = W_CLAR_ALL + W_CLAR_MJj	MS_P2	P2-OVF	0.128	0.161						
													0.138	0.409	N_WC**	N_KB	1020	0.0498	-1082.01	94
													0.148	0.68					-1028.17	92.5
													0.227	0.931					-992.3	93.5
													0.354	1.223					-279.34	90
													0.505	1.52					-23.63	90
													0.666	1.821					-13.45	87.13
													0.831	2.123					-0.07	86.24
													0.995	2.434					10.54	87.15
													1.069	2.583					23.63	90
													1.51	2.647					24.86	90.5
													4.904	2.861					26.72	91
													13.048	3.188					45.07	91.5
													23.745	3.523					128.17	91.5
													36.474	3.871					270.7	92.5
													45.938	4.127					728.3	95
													61.652	4.539						
3	W_CLAR_UNDE	35.65	Jock River (Station		[1.10]		77													
Total		156.82																		

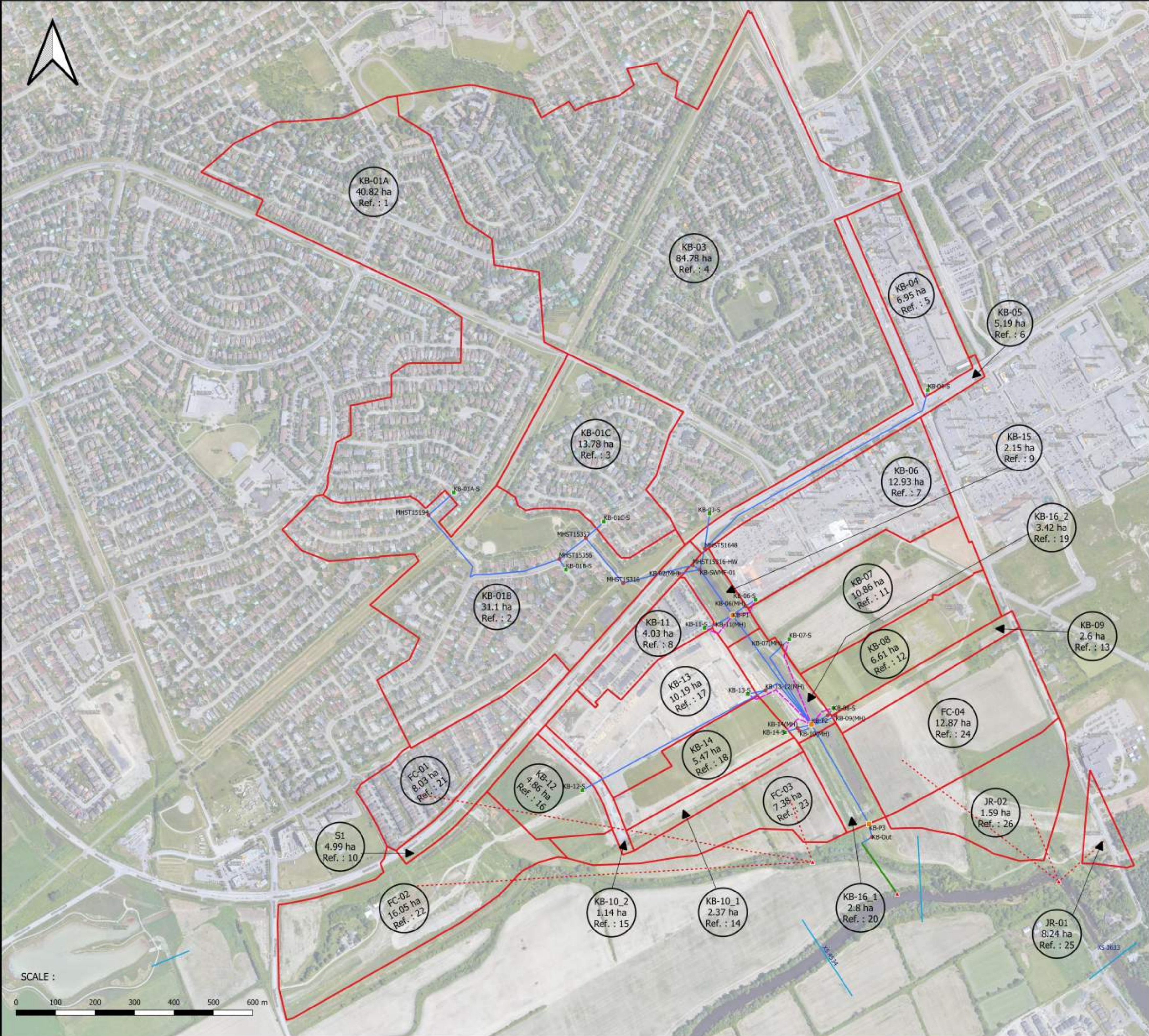
* Small storage was assumed to allow overflow and direct the flow towards minor and major systems

** N_WC is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5002 (Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain)

Ref.	ID (Brazeau Sub-catchment)	Area (ha)	Major System To	Minor System To	T. Imperv. [TP (hr)]	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/ 1.5)	Slope (%)		ROUTE RESERVOIR					ROUTE CHANNEL (Station 6016)					
									SLPP (Pervious)	SLPI (Impervious)	NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
4	W_CLAR_BRAZ	73.29	Pond in Brazeau which drains to Jock River (station 6016)*		0.65	0.6	77	699	1	0.5	W_CLAR_BRAZ	MS_P10	P10-OVF	0.068	0.001	SN_FO (Total Flows at Foster Drain)	N_CE**	159	0.0818	-645.23	91.5
														0.271	0.022					-391.2	91.5
														0.379	0.051					-91	91.5
														0.48	0.091					-85.52	91.5
														0.853	0.341					-15.46	89.4
														1.005	0.61					-9.79	89.31
														1.128	1.231					-3.22	86.24
														1.155	1.592					3.22	85.07
														1.194	1.876					10.96	85.79
														1.2	1.921					16.44	86.49
														1.259	2.369					26.55	89.45
														1.3	2.665					29.03	90.27
														1.349	2.813					35.76	90.67
																				36.67	91
																				108.08	91
																				109.82	90.5
																				112.04	90.5
																				114.62	91
Total		73.29																		116.76	91.5

* Brazeau pond discharges directly to the jock river through a road side ditch on the west side of Borrisokane road (station 6016)

** N_CE is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 6016 (Hydrograph from Node Foster routed to Node at Cedarview Road)



Legend
- Ken-BU storage
- Ken-BU MH
- Ken-BU Pond
- Ken-BU Outfalls
- Ken-BU Pipe
- Ken-BU Major System
- Ken-BU Channel
- Ken-BU to FC (Fraser Clarke) and JR(Jock River)

Kennedy Burnett Sub-catchment
- Kennedy Burnett (Ken-BU)

Google Hybrid

File name:

Figure F4 - Kennedy Burnett Sub-catchments.pdf

XS 3633 Cross Section at station 3633

KB-01A
40.82 ha
Ref. : 1

Area ID
Area (ha)
Reference Number

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david schaeffer engineering ltd

PROJECT :	BCDC - Quantity Control Study
TITLE :	Figure F4 - Kennedy Burnett Sub-catchments Table F4 - Kennedy Burnett Sub-catchments
PROJECT NO.	1474
DRAWN:	MM
DATE:	Mar. 2021

Ref.	ID KENNEDY-BURNETT	Area (ha)	Runoff Coef. [1]	Zero Imperv [1] (%)	Slope [1] (%)	Equivalent Width [1] (m)	Flow Length [1] (m)	Percent Routed [1] (%) (Pervious)	TIMP [2]	XIMP [2]	LGI: Length (m) =SQRT (Area*10000/1.5)	SLPP (%)	SLPI [2] (%)	Minor System Criteria [1]	Major System Criteria [1]	Major and Minor System To	DUALHYD parameters: Major System	DUALHYD parameters: Minor System	DUALHYD parameters: Max. Release Rate [2] (cms)	DUALHYD parameters: Storage [2] (m^3)
Existing Subcatchments to KB-SWMF																				
1	KB-01A	40.82	0.49	50%	0.97%	1879	220	76%	0.408	0.09792	521.664	0.5	0.5	10 L/s/inlet & 15 L/s/inlet ICDs	No MS flows to KB-SWMF	KB-01A-S	KB-01A-MJ	KB-01A-MN	3.6	4995
2	KB-01B	31.1	0.46	50%	0.42%	312	1000	50%	0.375	0.1875	455.339	0.42	0.42	10 L/s/inlet & 15 L/s/inlet ICDs	No MS flows to KB-SWMF	KB-01B-S	KB-01B-MJ	KB-01B-MN	1.585	6075
3	KB-01C	13.78	0.49	50%	0.50%	403	335	50%	0.409	0.2045	303.095	2.0	0.5	10 L/s/inlet & 15 L/s/inlet ICDs	No MS flows to KB-SWMF	KB-01C-S	KB-01C-MJ	KB-01C-MN	1.35	1880
4	KB-03	84.78	0.48	50%	0.63%	647	1300	50%	0.394	0.197	751.798	2.0	0.63	10 L/s/inlet & 15 L/s/inlet ICDs	No MS flows to KB-SWMF	KB-03-S	KB-03-MJ	KB-03-MN	5.27	15500
5	KB-04	6.95	0.80	40%	0.50%	55	1265	100%	0.85	0.85	215.252	2.0	0.5	Controlled to 503 L/s (approx. 5-year inlet capture rate)	MS flows stored on-site	KB-04-S	KB-04-MJ	KB-04-MN	0.503	1972
6	KB-05	5.19	0.65	0%	2.00%	51	1000	100%	0.93	0.93	186.011	2.0	0.50	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P1				
7	KB-06	12.93	0.81	40%	4.75%	217	600	100%	0.873	0.873	293.598	2.0	4.75	Controlled to Qcap (1350mm) 1,760 L/s (approx. 5-year inlet capture rate)	MS flows stored on-site	KB-06-S	KB-06-MJ	KB-06-MN	2.262	1950
8	KB-11	4.03	0.67	50%	2.00%	116	350	100%	0.675	0.675	163.911	2.0	2.0	Controlled to 577 L/s (approx. 5-year inlet capture rate)	MS flows to KB-SWMF	KB-11-S	KB-11-MJ	KB-11-MN	0.577	597
9	KB-15	2.15	0.90	90%	0.30%	476	45	100%	0.79	0.79	119.722	2.0	0.3	Uncontrolled		KB-P1				
10	S1	4.99	0.65	0	0.02	50	1000	1	0.93	0.93	182.3915203	2	2	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P1				
20	KB-16_1	2.800	0.900	0.900	0.003	550.000	50.000	1.000	0.750	0.750	136.626	2.000	0.300	Uncontrolled		KB-P3				
19	KB-16_2	3.42	0.9	0.9	0.003	672	50	1	0.71	0.71	150.9966887	2	0.3	Uncontrolled		KB-P2				
Proposed Subcatchments to KB-SWMF																				
11	KB-07	10.86	0.8	0.5	0.02	209	525	1	0.86	0.86	269.072	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to KB-SWMF	KB-07-S	KB-07-MJ	KB-07-MN	2.094	1378
12	KB-08	6.61	0.65	0.5	0.02	133	500	1	0.64	0.64	209.921	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to KB-SWMF	KB-08-S	KB-08-MJ	KB-08-MN	1.058	787
13	KB-09	2.6	0.8	0	0.02	70	500	1	0.86	0.86	131.656	2.0	2.0	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P2				
14	KB-10_1	2.37	0.8	0	0.02	64	500	1	0.86	0.86	125.698	2.0	2.0	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P3				
15	KB-10_2	1.14	0.8	0	0.02	57	200	1	0.86	0.86	87.178	2.0	2.0	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P4				
16	KB-12	4.86	0.75	0.3	0.02	227	215	1	0.79	0.79	180.000	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to FC-Drain	KB-12-S	KB-12-MJ	KB-12-MN	0.8665	632
17	KB-13	10.19	0.65	50%	2.00%	227	450	100%	0.64	0.64	260.640	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to KB-SWMF	KB-13-S	KB-13-MJ	KB-13-MN	1.722	1077
18	KB-14	5.47	0.65	50%	2.00%	121	450	100%	0.64	0.64	190.962	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to KB-SWMF	KB-14-S	KB-14-MJ	KB-14-MN	0.8734	631
Existing and Proposed Subcatchments Total Area to KB-SWMF (ha)										257.04										
EXISTING / PROPOSED SUBCATCHMENTS TO FRASER-CLARKE DRAIN																				
21	FC-01	8.03	0.53						0.47	0.47	231.373	2.0	1.0	Controlled to 756 L/s	No MS flows to KB-SWMF	FC-01-S	FC-01-MJ	FC-01-MN	0.756	714
22	FC-02	16.05	0.85						0.93	0.93	327.109	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to FC-Drain	FC-02-S	FC-02-MJ	FC-02-MN	1.159	2385
23	FC-03	7.37	0.65						0.64	0.64	221.660	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to FC-Drain	FC-03-S	FC-03-MJ	FC-03-MN	0.358	1131
24	FC-04	12.87	0.65						0.64	0.64	292.916	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to FC-Drain	FC-04-S	FC-04-MJ	FC-04-MN	0.741	1794
Existing / Proposed Subcatchments Total Area to Fraser-Clarke Drain (ha)										44.32										
PROPOSED SUBCATCHMENTS TO JOCK RIVER																				
25	JR-01	8.24	0.65						0.64	0.64	234.379	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to JR River	JR-01-S	JR-01-MJ	JR-01-MN	0.563	1040
26	JR-02	1.59	0.65						0.64	0.64	102.956	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to JR River	JR-02-S	JR-02-MJ	JR-02-MN	0.153	153
Proposed Subcatchments Total Area to Jock River (ha)										9.83										

ROUTE RESERVOIR

NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)
KB-P1 = ["KB-01A-S" + "KB-01B-S" + "KB-01C-S" + "KB-03-S" + "KB-04-S" + "KB-05" + "KB-06-S" + "KB-11-S" + "KB-15" +"S1"]	KB-P1R	KB-P1ovf	0.076	0.003
			0.088	0.006
			0.136	0.011
			0.301	0.017
			0.454	0.027
			0.631	0.041
			1.173	0.068
			1.91	0.111
			4.847	0.231
			9.813	0.436
			12.134	0.617
			12.438	0.732
			12.424	0.811
			12.425	0.894
KB-P3 = [KB-Pond2[4]+ KB-16_1]	KB-P3R	KB-P3ovf	0.051	0.002
			0.048	0.003
			0.057	0.029
			0.089	0.045
			0.133	0.069
			0.199	0.106
			0.321	0.172
			1.029	0.306
			4.036	0.527
			8.332	0.761
			11.727	0.941
			14.125	1.067
			15.675	1.149
			16.555	1.196
			16.911	1.214
KB-P2=["KB-Pond1[3]" + "KB-07-S"+ "KB-08-S"+ "KB-09"+ "KB-10_1"+ "KB-10_2"+ "KB-12-S"+ "KB-13-S"+ "KB-14-S" + "KB-16_2"]	KB-P2R	KB-P2ovf	0.053	0.005
			0.132	0.009
			0.269	0.014
			0.455	0.023
			0.699	0.037
			0.947	0.056
			1.853	0.09
			2.712	0.146
			6.626	0.287
			11.228	0.515
			14.885	0.738
			16.473	0.893
			17.311	0.998
			17.633	1.063
			17.634	1.112

ROUTE CHANNEL (Station 3633)

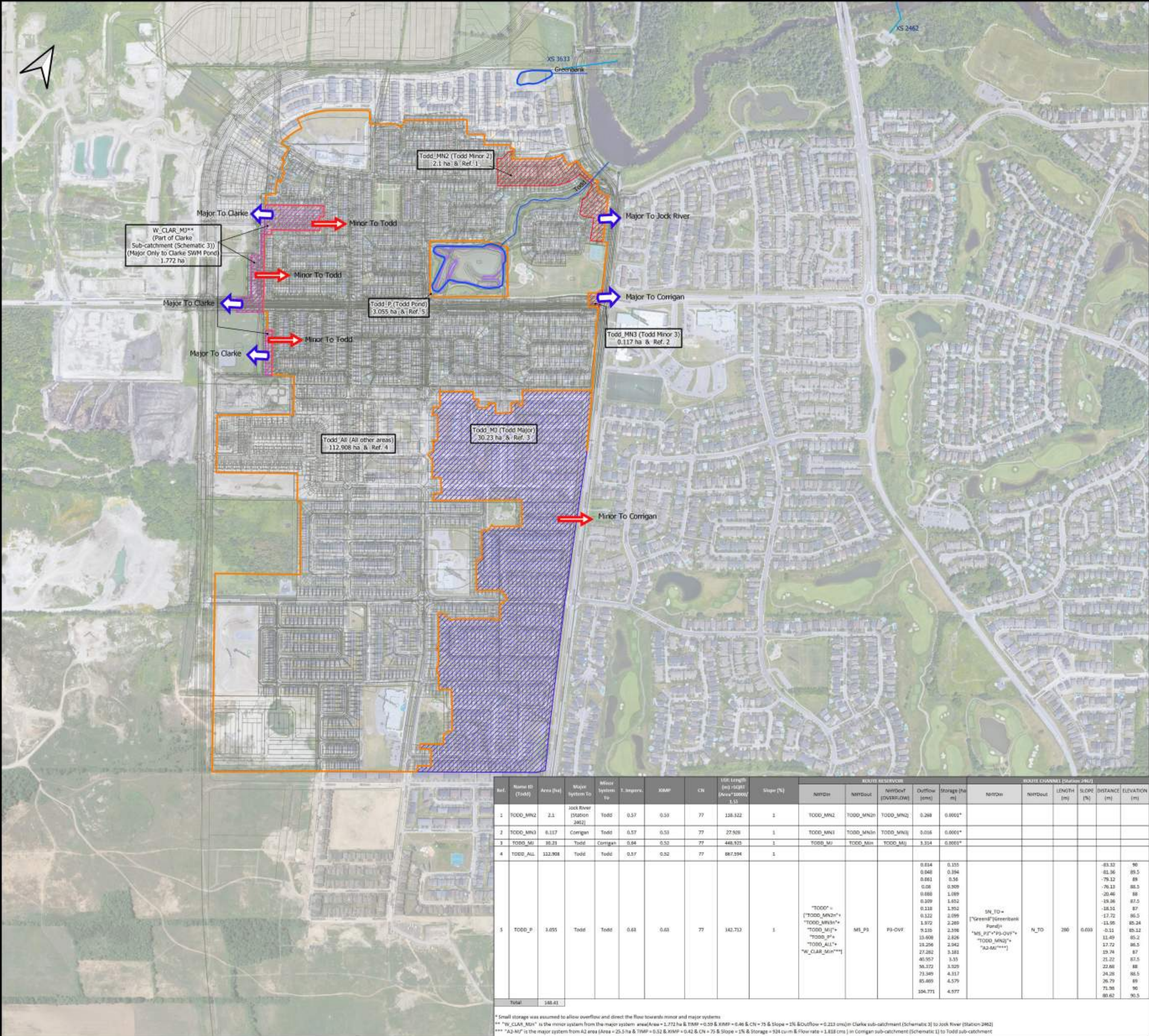
NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
SN_KB (Total Flows before Station 3633)	N_TO	650	0.0498	-29.24	91
				-27.41	90.5
				-25.64	90
				-23.74	89.5
				-22	89.26
				-20	88.51
				-19	88.32
				-15	88.1
				-10	88.11
				-5	88.17
				0	88.27
				5	88.19
				10	88.06
				15	88.48
				16	88.7
				23.74	89.5
				24.68	90
				25.57	90.5
				26.5	91

[1] PCSWMM parameters as per KENNEDY-BURNETT STORMWATER MANAGEMENT FACILITY RETROFIT, DETAILED DESIGN REPORT, NOVATECH June, 2020

[2] SWMHYMO parameters as per JFSA P1474-16, Dec.,2020, the parameters are based on PCSWMM parameters as per KENNEDY-BURNETT STORMWATER MANAGEMENT FACILITY RETROFIT, DETAILED DESIGN REPORT, NOVATECH June, 2020

[3] KB-Pond1 = ["KB-P1R"+"KB-P1ovf"]

[4] KB-Pond2 = ["KB-P2R"+"KB-P2ovf"]



Ref.	Name ID (Todd)	Area (ha)	Major System To	Minor System To	T. Imperv.	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%)	ROUTE RESERVOIR NHYDin	ROUTE RESERVOIR NHYDout	ROUTE RESERVOIR NHYDovf (OVERFLOW)	ROUTE RESERVOIR Outflow (cms)	ROUTE RESERVOIR Storage (ha m)	ROUTE CHANNEL (Station 2462) NHYDin	ROUTE CHANNEL (Station 2462) NHYDout	ROUTE CHANNEL (Station 2462) LENGTH (m)	ROUTE CHANNEL (Station 2462) SLOPE (%)	ROUTE CHANNEL (Station 2462) DISTANCE (m)	ROUTE CHANNEL (Station 2462) ELEVATION (m)
1	TODD_MN2	2.1	Jock River (Station 2462)	Todd	0.57	0.53	77	118.322	1	TODD_MN2	TODD_MN2n	TODD_MN2j	0.268	0.0001*						
2	TODD_MN3	0.117	Corrigan	Todd	0.57	0.53	77	27.928	1	TODD_MN3	TODD_MN3n	TODD_MN3j	0.016	0.0001*						
3	TODD_MJ	30.23	Todd	Corrigan	0.64	0.52	77	448.925	1	TODD_MJ	TODD_MJn	TODD_MJj	3.314	0.0001*						
4	TODD_ALL	112.908	Todd	Todd	0.57	0.52	77	867.594	1											
5	TODD_P	3.055	Todd	Todd	0.63	0.63	77	142.712	1	"TODD" = ["TODD_MN2n"+ "TODD_MN3n"+ "TODD_MJj"+ "TODD_P"+ "TODD_ALL"+ "W_CLAR_Min"**]	MS_P3	P3-OVF	0.014 0.048 0.061 0.08 0.088 0.109 0.118 0.122 1.972 9.135 13.608 19.256 27.282 40.957 58.372 73.349 85.469 104.771	0.155 0.394 0.56 0.909 1.089 1.652 1.952 2.099 2.289 2.598 2.826 2.942 3.181 3.55 3.929 4.317 4.579 4.577	SN_TO = ["GreenB"(Greenbank Pond)+ "MS_P3"+"P3-OVF"+ "TODD_MN2j"+ "A2-MJ"***]	N_TO	280	0.033	-83.32 -81.36 -79.12 -76.13 -20.46 -19.36 -18.51 -17.72 -11.95 -0.11 11.49 17.72 19.74 21.22 22.68 24.28 26.79 71.98 80.62	90 89.5 89 88.5 88 87.5 87 86.5 85.24 85.12 85.2 86.5 87 87.5 88 88.5 89 90 90.5
Total		148.41																		

* Small storage was assumed to allow overflow and direct the flow towards minor and major systems

** "W_CLAR_Min" is the minor system from the major system area(Area = 1.772 ha & TIMP = 0.59 & XIMP = 0.46 & CN = 75 & Slope = 1% &Outflow = 0.213 cms)in Clarke sub-catchment (Schematic 3) to Jock River (Station 2462)

*** "A2-MJ" is the major system from A2 area (Area = 25.5 ha & TIMP = 0.52 & XIMP = 0.42 & CN = 75 & Slope = 1% & Storage = 924 cu-m & Flow rate = 1.818 cms) in Corrigan sub-catchment (Schematic 1) to Todd sub-catchment

Legend
- Channel Cross Sections
- SWMF Drains
- SWMF ponds
- Sub-catchments
  - Todd
  - Todd Minor
  - Todd Major
  - Todd Pond Boundary
  - W_CLAR_Major
- Todd-Greenbank-CAD
- Google Hybrid

File name:

Figure F5 -Todd Sub-catchments.pdf

Major System — Minor System

XS 2462 — Cross Section at station 2462

Todd_P (Todd Pond) → Area ID
3.055 ha & Ref. → Reference Number, Area (ha)

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DSEL
david schaeffer engineering ltd

SCALE :

0 — 250 — 500 m

PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure F5 -Todd Sub-catchments

Table F5 -Todd Sub-catchments

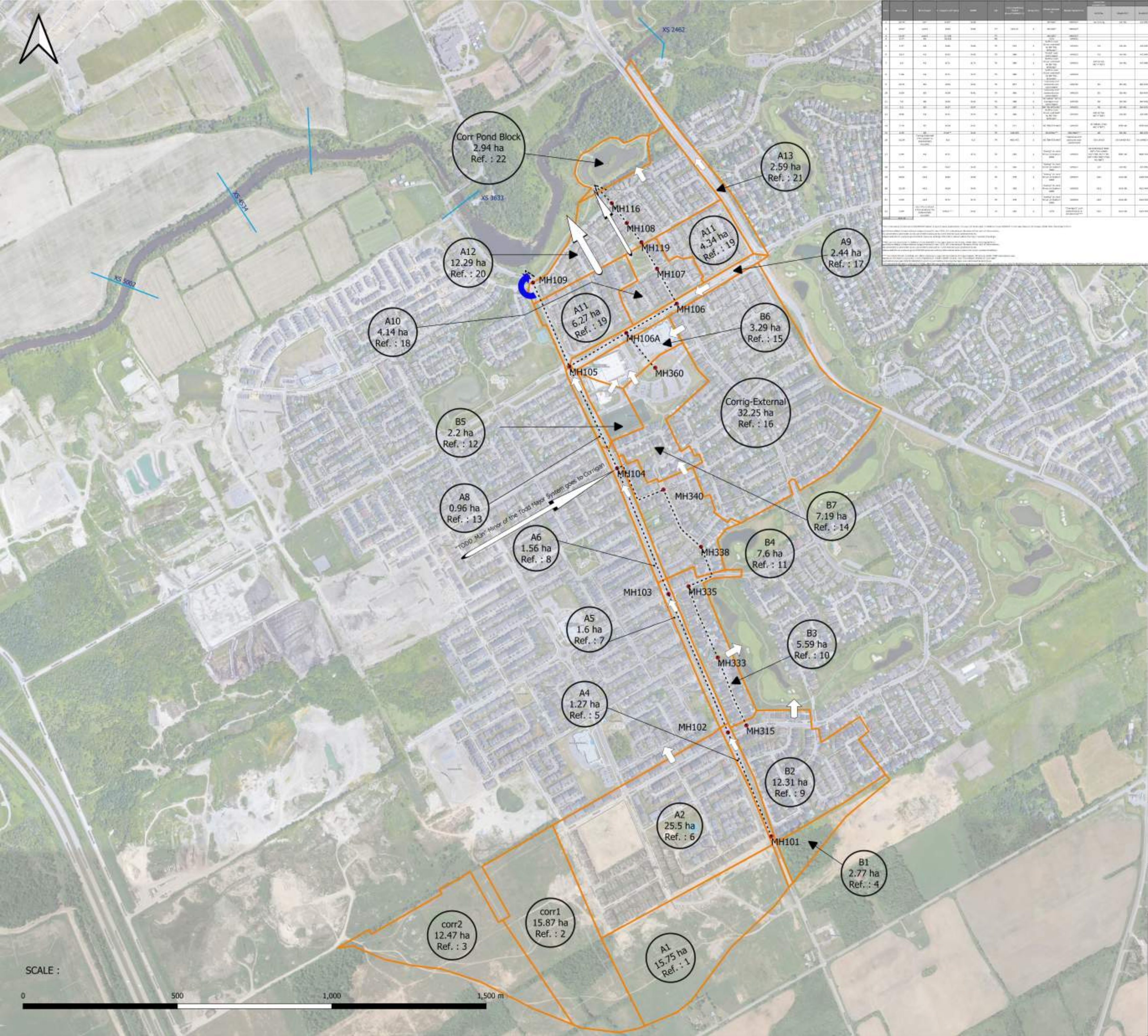
PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID (Todd)	Area (ha)	Major System To	Minor System To	T. Imperv.	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%)	ROUTE RESERVOIR					ROUTE CHANNEL (Station 2462)					
										NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	TODD_MN2	2.1	Jock River (Station 2462)	Todd	0.57	0.53	77	118.322	1	TODD_MN2	TODD_MN2n	TODD_MN2j	0.268	0.0001*						
2	TODD_MN3	0.117	Corrigan	Todd	0.57	0.53	77	27.928	1	TODD_MN3	TODD_MN3n	TODD_MN3j	0.016	0.0001*						
3	TODD_MJ	30.23	Todd	Corrigan	0.64	0.52	77	448.925	1	TODD_MJ	TODD_MJn	TODD_MJj	3.314	0.0001*						
4	TODD_ALL	112.908	Todd	Todd	0.57	0.52	77	867.594	1											
5	TODD_P	3.055	Todd	Todd	0.63	0.63	77	142.712	1	"TODD" = ["TODD_MN2n"+ "TODD_MN3n"+ "TODD_MJj"+ "TODD_P"+ "TODD_ALL"+ "W_CLAR_MJn"**]	MS_P3	P3-OVF	0.014 0.048 0.061 0.08 0.088 0.109 0.118 0.122 1.972 9.135 15.608 19.256 27.282 40.957 56.372 73.349 85.469 104.771	0.155 0.394 0.56 0.909 1.089 1.652 1.952 2.099 2.269 2.598 2.826 2.942 3.181 3.55 3.929 4.317 4.579 4.977	SN_TO = ["GreenB" (Greenbank Pond)+ "MS_P3"+"P3-OVF"+ "TODD_MN2j"+ "A2-MJ"***]	N_TO	280	0.033	-83.32 -81.36 -79.12 -76.13 -20.46 -19.36 -18.51 -17.72 -11.95 -0.11 11.49 17.72 19.74 21.22 22.68 24.28 26.79 71.98 80.62	90 89.5 89 88.5 88 87.5 87 86.5 85.24 85.12 85.2 86.5 87 87.5 88 88.5 89 90 90.5
Total		148.41																		

* Small storage was assumed to allow overflow and direct the flow towards minor and major systems

** "W_CLAR_MJn" is the minor system from the major system area(Area = 1.772 ha & TIMP = 0.59 & XIMP = 0.46 & CN = 75 & Slope = 1% &Outflow = 0.213 cms)in Clarke sub-catchment (Schematic 3) to Jock River (Station 2462)

*** "A2-MJ" is the major system from A2 area (Area = 25.5 ha & TIMP = 0.52 & XIMP = 0.42 & CN = 75 & Slope = 1% & Storage = 924 cu-m & Flow rate = 1.818 cms) in Corrigan sub-catchment (Schematic 1) to Todd sub-catchment



File name:

Figure F6 - Corrigan Sub-catchments.pdf

Major System

Overflow

Legend

Channel Cross Section

Corrigan-Pipe Line

Corrigan-MH

Corrigan Drainage Boundaries

Corrigan Drainage Boundaries

A1
15.75 ha
Ref. : 1

Area ID

Area (ha)

Reference Number

XS 0

Cross Section at station 0

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DSEL
david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure F6 - Corrigan Sub-catchments

Table F6 - Corrigan Sub-catchments

PROJECT NO.	1474
DRAWN:	MM
DATE:	Mar. 2021

										DUALHYD parameters					DIVERT HYD				ROUTE PIPE						ROUTE CHANNEL (Station) [ROUTE RESERVOIR]						
Ref.	Area (ha)	ID Corrigan	T. Imperv. [TP (hr)]	XIMP	CN	LGI: Length (m) =SQRT (Area*10000 /1.5)	Slope (%)	Major System To	Minor System To	NHYDin	MajNHYD	MinNHYD	Max. Release Rate (cms)	Storage (m^3)	NHYDin	outflow hydrographs (NHYDs)	NIDout	QTOTAL (cms)= QIDi + QIDii	NHYDin	NHYDout	Diameter (mm) [Height (mm)]	Width (mm)	LENGTH (m) with 0.013 Manning Coef.	SLOPE (m/m)	NHYDin	NHYDout	[NHYDovf]	LENGTH (m)	SLOPE (%)	DISTANCE (m) [Outflow (cms)]	ELEVATION (m) [Storage (ha-m)]
1	15.75	A1*	0.52*	0.42				MH101*	MH101*	A1-Corrig	A1-MJ	A1-MN	1.818	924					MH101= ["A1-MJ" +"A1-MN" +"corr1-MJ" +"corr1-MN" +"corr2"+"B1" +"A4-MN"]	101-102	1050		368	0.0054						[0.015]	[0.04118]
2	15.87	corr1	0.63	0.63	77	325.27	1	MH101*	MH101*																						
3	12.47	corr2	[1.10]		77			MH101*	MH101*																						
4	2.77	B1	[0.23]		56			N/A	MH101																					[0.03]	[0.08297]
5	1.27	A4	0.65	0.65	75	253	1	Half to Jock River and Half to B6 "B6-B7ExMJ"	MH101	A4	A4-MJ	A4-MN	0.405	68																[0.045]	[0.12537]
6	25.5	A2	0.52	0.42	75	566	1	"Todd" sub-catchment	MH102	A2	A2-MJ	A2-MN	1.818	924					MH102= ["A2-MN" +"101-102"]	102-103	1500		504	0.0028						[0.06]	[0.16837]
7	1.6	A5	0.71	0.71	75	300	1	Half to Jock River and Half to B6 "B6-B7ExMJ"	MH103	A5T=["A4-MJ"+"A5"]	A5-MJ	A5-MN	0.357	60																[0.075]	[0.21199]
8	1.56	A6	0.71	0.71	75	280	1	Half to Jock River and Half to B6 "B6-B7ExMJ"	MH104										MH103= ["102-103" +"A5-MN"]	103-104	1650		438	0.0046						[0.09]	[0.27545]
9	12.31	B2	0.54	0.41	75	417	1	"JOCKVA-TO" Jockvale sub-catchment	MH315	B2	B2-MJ	B2-MN	1.029	508					B2-MN	315-333	1200		254	0.001						[0.105]	[0.34650]
10	5.59	B3	0.54	0.41	75	345	1	"JOCKVA-TO" Jockvale sub-catchment	MH333	B3	B3-MJ	B3-MN	0.459	227					MH333= ["B3-MN" +"315-333"]	333-335	1200		251	0.001						[0.12]	[0.42049]
11	7.6	B4	0.54	0.41	75	388	1	"B7-B4MJ" B7 in Corrigan sub-catchment	MH340	B4	B5-MJ	B4-MN	0.655	323					333-335	335-338	1200		185	0.001	Corrigan= ["116-corrig"+ "Pond-Block"]	Co-P	Co-P-OVF			[0.135]	[0.50188]
12	2.2	B5	0.57	0.57	75	187	1	B6 "B6-B7ExMJ"	MH105	B5	B5-MJ	B4-MN	0.26	250		A8-MJ-JR			335-338	338-340	1350		233	0.001						[0.186]	[0.60307]
13	0.96	A8	0.71	0.71	75	186	1	Half to Jock River and Half to B6 "B6-B7ExMJ"	MH105	A8T=["A6-MJ"+"A8"]	A8-MJ	A8-MN	0.238	40	A8-MJ	A8-MJ-B6	2	100 = 50 + 50	MH340= ["338-340" +"B4-MN"]	340-104	1650		240	0.0015						[2.11]	[0.79083]
14	7.19	B7	0.54	0.41	75	211	1	B6 "B6-B7ExMJ"	MH360	B7-B4MJ=["B4-MJ"+"B7"]	B7R-MJ	B7R-MN	0.629	311					MH104T= ["340-104" +"MH104"****]	104-105	[2100]	2400	380	0.001						[5.874]	[1.00271]
15	3.29	B6	0.54**	0.41	75	148.099	1	MH106A**	MH106A**	B6	B6-MJ	B6-MN	0.064	5484					B7R-MN	360-106A	1050		167	0.001						[11.395]	[1.29643]
16	32.54	Corrig-External ("EX-LAND" in SWMHYMO model)	0.5	0.5	74	465.475	1	B6 "B6-B7ExMJ"	"JOCKVA-TO" Jockvale sub-catchment	EX-LAND	EX-LAND-MJ	EX-LAND-MN	2.275	1365		MH105-JR		3 = 0 + 3	MH105-B6	105-106A	1800		208	0.001						[18.77]	[1.62054]
17	2.44	A9	0.71	0.71	75	262	1	"corrig" to Jock River at Station 2462	MH106	B6-B7ExMJ=["B7R-MJ"+"EX-LAND-MJ"+"B5-MJ"+"B6-MJ"+"B6-MN"+"A8-MJ-B6"]	B6R-MJ	B6R-MN	0.064	5484	MH105= ["104-105"+ "B5-MN"+ "A8-MN"+ "TODD_MN3j"]		2		MH106A= ["360-106A" +"105-106A" +"B6R-MN" +"B6R-MJ"]	106A-106	1800		190	0.001						[28.143]	[1.97516]
18	4.14	A10	0.47	0.35	75	183	1	"corrig" to Jock River at Station 2463	MH107	A9	A9-MJ	A9-MN	0.547	0					MH106= ["106A-106" +"A9-MN"]	106-107	1800		122.5	0.001						-83.32	90
19	10.61	A11	0.62	0.53	75	379	1	"corrig" to Jock River at Station 2464	MH107	A10	A10-MJ	A10-MN	0.31	228		MH105-B6		100 = 96.9 + 3.1(This value is obtained from Corrigan Report, IBI Group, 2008)	MH107= ["106-107" +"A10-MN" +"A11-MN"]	107-119	1800		114	0.0012						-81.36	89.5
20	12.29	A12	0.54	0.41	75	183	1	"corrig" to Jock River at Station 2465	MH108	A11	A11-MJ	A11-MN	0.993	556					107-119	119-108	1800		65.8	0.0012						-79.12	89
21	2.59	A13	0.71	0.71	75	379	1	"corrig" to Jock River at Station 2466	MH108	A12	A12-MJ	A12-MN	1.029	672					MH108= ["119-108" +"A13-MN" +"A12-MN"]	108-116	1800		76.6	0.0013	corrig= ["Co-P-OVF"+ "Co-P"+ "N_TO"+ "MH105-JR"+ "A8-MJ-JR"+ "A9-MJ"+ "A10-MJ"+ "A11-MJ"+ "A12-MJ"+ "A13-MJ"]					-76.13	88.5
22	2.94	Corr Pond Block ("Pond-Block" in SWMHYMO model)	0.415***	0.41	75	183	1	N/A	"Corrigan" just before ROUTE RESERVOIR ***	A13	A13-MJ	A13-MN	0.571	0					108-116	116-corrig	1800		79.5	0.0013		N_MI		580	0.4448	-20.46	88
Total	183.48																													-19.36	87.5
																														-18.51	87
																														-17.72	86.5
																														-11.95	85.24
																														-0.11	85.12
																														11.49	85.2
																														17.72	86.5
																														19.74	87
																														21.22	87.5
																														22.68	88
																														24.28	88.5
																														26.79	89
																														71.98	90
																														80.62	90.5

*A1 is named as A1-Corrig in SWMHYMO Model to avoid name duplication. A1 was not developed in 2008 so it was NASHYD in Corrigan Report, IBI Group, 2008. After checking A1 from geoOttawa (https://maps.ottawa.ca/geoottawa/)in Jan. 2021, A1 is developed. Because of the lack of information,
A1 parameters were taken as A2 parameters because A2 is the nearest sub-catchment to A1.
Major and Minor systems go to MH101 because lacking information about where the major system should go.

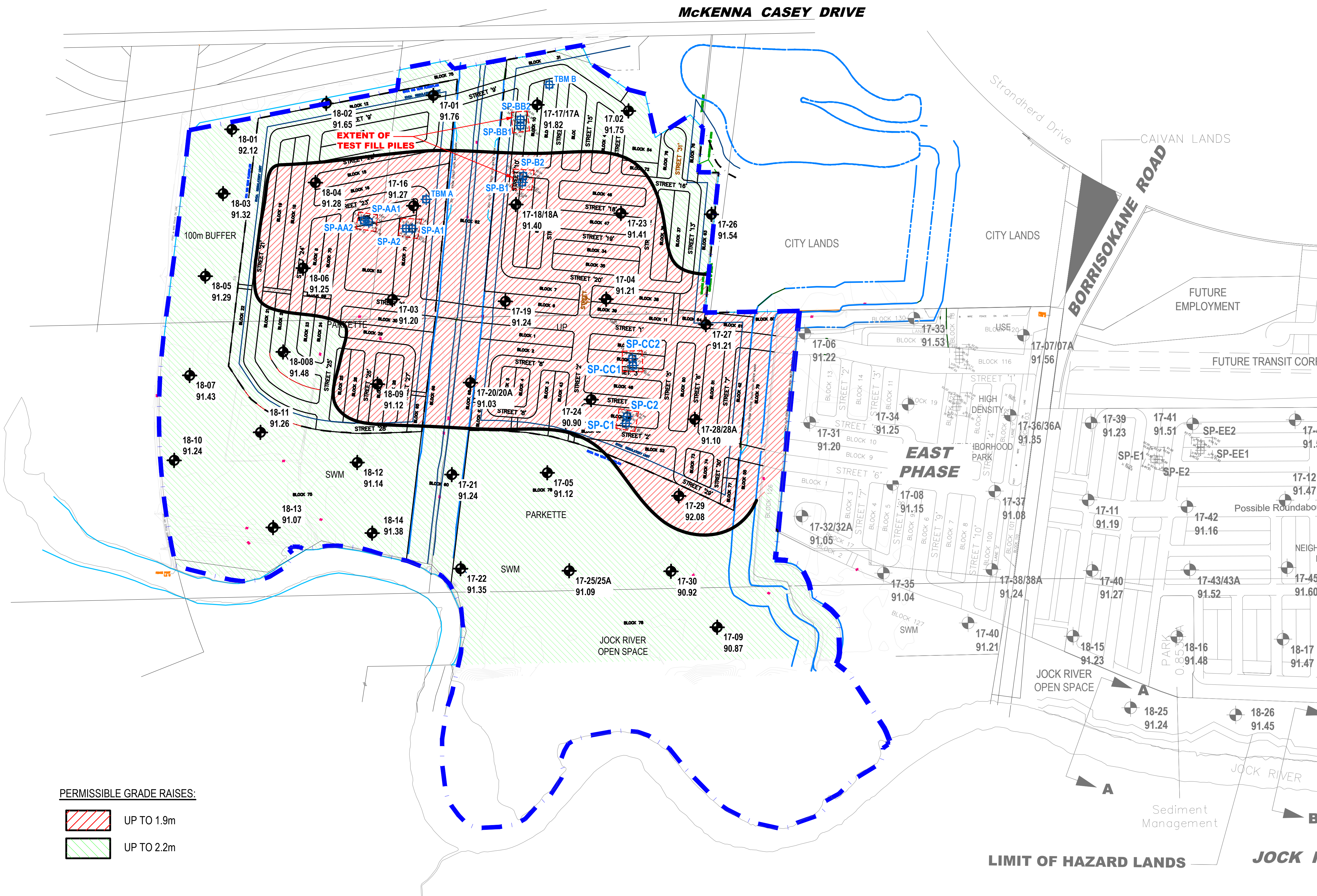
**B6 was not developed in 2008 so it was NASHYD in Corrigan Report, IBI Group, 2008. After checking B6 from geoOttawa (https://maps.ottawa.ca/geoottawa/)in Jan. 2021, B6 is developed. Because of the lack of information,
B6 parameters were taken as B7 parameters because B7 is the nearest sub-catchment to B6.
Major and Minor systems go to MH106A because lacking information about where the major system should go.

*** 'Corr Pond Block' is added, Jan. 2021, because it was not included in Corrigan Report, IBI Group, 2008. TIMP calculation was based on the impervious area in 'Corr Pond Block'. TIMP = XIMP = 0.415. 'Corr Pond Block' drains to "Corrigan" just before Corrigan ROUTE RESERVOIR which is just before draining Corrigan sub-catchment to Jock River.

**** MH104=["A6-MN"+"103-104"+"TODD_MJn"(Minor of the Todd Major System goes to Corrigan)], TODD_MJ=30.230 ha, ROUTE RESERVOIR(OUTFLOW = 3.314 cms, STORAGE = 0.0001 ha-m, NHYDout=["TODD_MJn"] ,NHYDin=["TODD_MJ"], NHYDovf=["TODD_MJj"])

APPENDIX E

GEOTECHNICAL



LEGEND:

APPROXIMATE BOREHOLE LOCATION (GOLDER ASSOCIATES, 04/2019)

91.07 GROUND SURFACE ELEVATION (m)

BOREHOLE LOCATIONS WERE SURVEYED BY OTHERS AND ARE REFERENCED TO A GEODETIC DATUM.

PERMISSIBLE GRADE RAISES:

UP TO 1.9m

UP TO 2.2m

PATERSON GROUP

9 AURIGA DRIVE
OTTAWA, ON
K2E 7T9
TEL: (613) 226-7381

NO.	REVISIONS	DATE	INITIAL
3	UPDATED TO LATEST CONCEPTUAL PLAN	08/12/2022	KP
2	GRADE RAISE RESTRICTIONS UPDATED	30/11/2021	KP
1	UPDATED TO LATEST CONCEPTUAL PLAN	19/10/2021	OC

CAIVAN COMMUNITIES

GEOTECHNICAL INVESTIGATION

PROP. RESIDENTIAL DEVELOPMENT - CONSERVANCY LANDS WEST

OTTAWA, ONTARIO

Title:

PERMISSIBLE GRADE RAISE PLAN

Scale:	1:5000	Date:	09/2019
Drawn by:	MPG	Report No.:	PG5036-2
Checked by:	SD	Dwg. No.:	PG5036-5
Approved by:	SD	Revision No.:	3

11x17

p:\autocad drawings\geotechnical\pg50xx\pg5036\pg5036-1-thlp west land (revision.03).dwg